STR-V200

SERVICE MANUAL

US Model

This receiver incorporates the Dolby* Pro Logic Surround system.

* Manufactured under license from Dolby Laboratories Licensing Corporation.
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POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 50 watts per channel minimum RMS power, with no more than 0.09% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

POWER OUTPUT

Stereo mode (8 ohms 20 Hz - 20 kHz, THD 0.09%)
50 W + 50 W

Surround mode (8 ohms at 1 kHz, THD 0.8%)
Front: 50 W/ch
Center*: 50 W
Rear*: 50 W/ch

* Depending on the surround mode and the source, sound will not be output.

SPECIFICATIONS

Frequency response
CD, TAPE/MD, TV/DBS, VIDEO:
10 Hz - 50 kHz ±1 dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
CD	200 mV	50 kilohms	82 dB (A, 150 mV)
TAPE/MD, TV/DBS, VIDEO	150 mV		

Outputs
TAPE/MD REC OUT:
Voltage: 150 mV,
Impedance: 10 kilohms
VIDEO AUDIO OUT:
Voltage: 150 mV,
Impedance: 10 kilohms
MIX AUDIO OUT:
Voltage: 2 V
Impedance: 10 kilohms
PHONES:
Accepts low and high impedance headphones

MUTING Full mute

BASS BOOST +10 dB at 70 Hz

TONE ±8 dB at 100 Hz and 10 kHz

FM tuner section

Tuning range 87.5 - 108.0 MHz

Antenna terminals
300 ohms, balanced
75 ohms, unbalanced

Sensitivity Mono: 18.3 dBf, 4.5 µV
Stereo: 38.3 dBf, 45 µV

Usable sensitivity
11.2 dBf, 2 µV (IHF)

S/N Mono: 0.3%
Stereo: 0.5%

— Continued on next page —

FM STEREO/FM-AM RECEIVER

MICROFILM

SONY®

Harmonic distortion at 1 kHz
0.5%

Separation 45 dB at 1 kHz

Frequency response
30 Hz - 15 kHz $^{+0.5}_{-2}$ dB

Selectivity 60 dB at 400 kHz

AM tuner section

Tuning range With 10 kHz interval: 530 - 1710 kHz**

Antenna Loop antenna

Usable sensitivity
50 dB/m (at 1,000 kHz)

S/N 54 dB (at 50 mV/m)

Harmonic distortion
0.5% (50 mV/m, 400 Hz)

Selectivity At 10 kHz: 40 dB

** You can change the AM tuning interval to 9 kHz or to 10 kHz. After tuning in any AM station, turn off the receiver. Hold down the TUNING + button and press the I/⏻ button. All preset stations will be erased when you change the interval. To reset the interval to 10 kHz, repeat the procedure.

General

System
Tuner section:
PLL quartz-locked digital synthesizer system
Preamplifier section:
Low-noise NF type equalizer
Power amplifier section:
Pure-complementary SEPP

Power requirements
120 V AC, 60 Hz

Power consumption
150 W

AC outlets 1 switched, 120 W/1 A maximum

Dimensions 355 × 120 × 325 mm (14 × 4 3/4 × 12 3/4 inches) including projecting parts and controls

Mass (Approx.)
5.9 kg (13 lb)

Supplied accessories
- FM wire antenna (1)
- AM loop antenna (1)
- Remote commander (remote) (1)
- Size AA (R6) batteries (2)

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

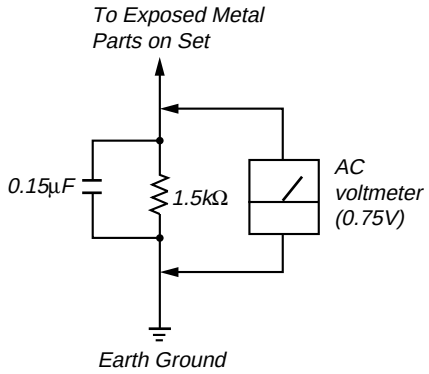

Fig. A. Using an AC voltmeter to check AC leakage.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
SERVICING NOTE

FACTORY SET

Mode which sets the preset settings of the unit to that at shipment.

Procedure:

While pressing the [VIDEO] button and [TV/DBS] button together, press the [I/⏻] button to turn on the power.
"FACTORY" will be displayed and factory settings executed.

INITIALIZATION

Mode which erases all the preset settings of the unit.
Use this mode when returning the unit to the customer.

Procedure:

While pressing the [VIDEO] button, [TV/DBS] button, and [TAPE/MD] button together, press the [I/⏻] button to turn on the power.
"INITIAL" will be displayed and initialization executed.

FLUORESCENT INDICATOR TUBE LIGHTING CHECK

Mode which lights up the whole fluorescent indicator tube or partially.

Procedure:

While pressing the [TV/DBS] button and [TAPE/MD] button together, press the [I/⏻] button to turn on the power.
The fluorescent indicator tube will light up in about 0.5 seconds, and then start to light up partially. After partial lighting completes, the [BASS BOOST] indicator will light up, "FINISH" will be displayed, indicating that fluorescent indicator tube lighting check has completed.

SWITCHING OF 9 kHz/10 kHz AM CHANNEL STEP

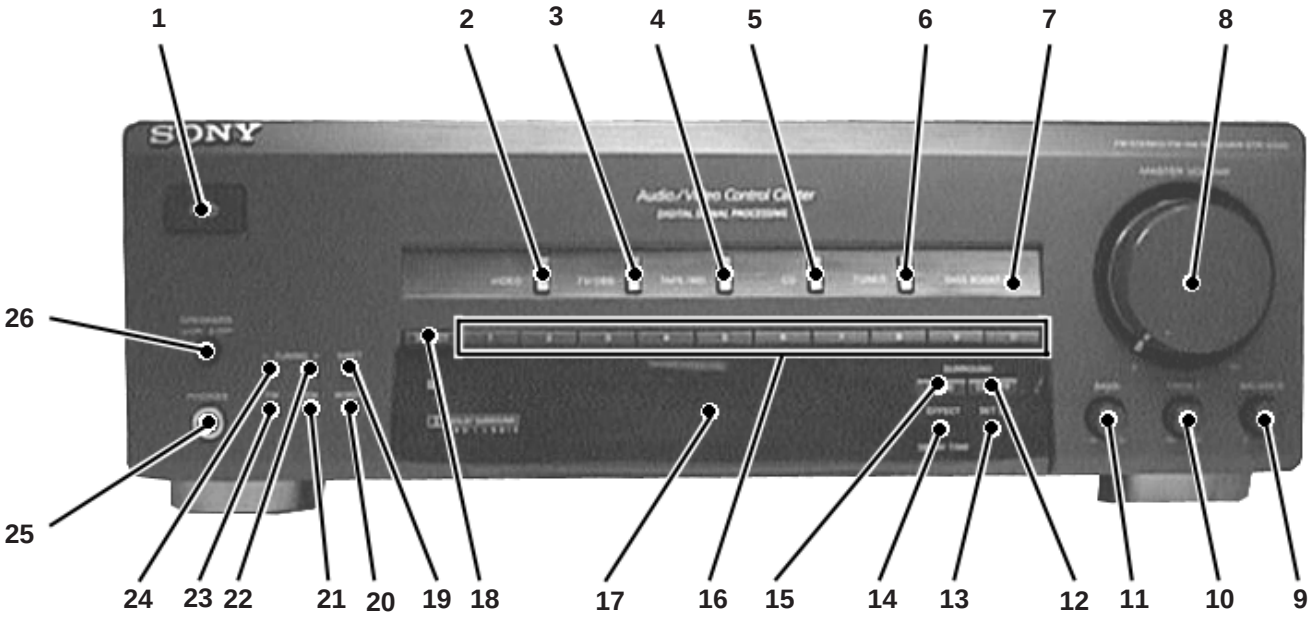
The AM channels of this unit can be switched between 9 kHz and 10 kHz.

Procedure:

Set FUNCTION to AM and turn off the power.
While pressing the [TUNING +] button, press the [I/⏻] button to turn on the power.
"9 k STEP" or "10 k STEP" will be displayed, and the channel step will be switched.

SECTION 2
GENERAL

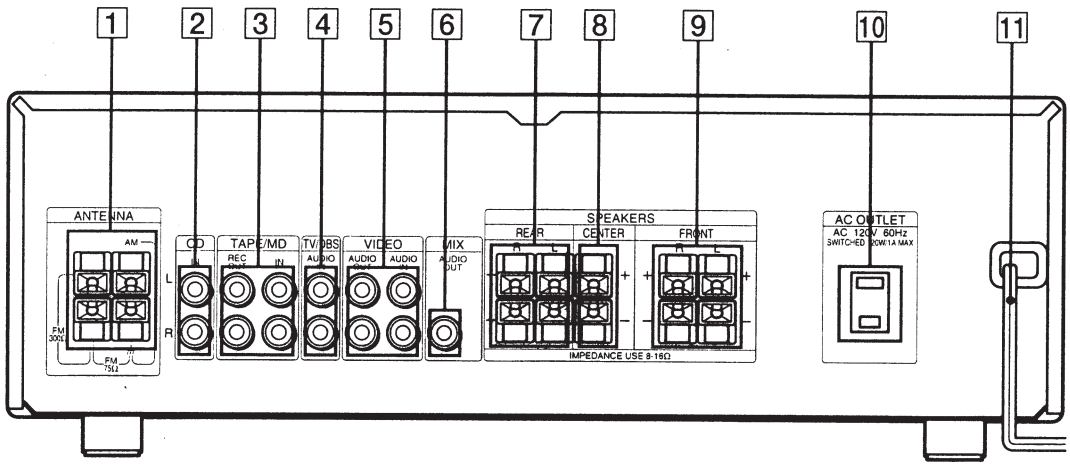
Front Panel Descriptions



1 I/⏻ button
2 VIDEO button
3 TV/DBS button
4 TAPE/MD button
5 CD button
6 TUNER button
7 BASS BOOST indicator
8 MASTER VOLUME knob
9 BALANCE knob
10 TREBLE knob
11 BASS knob
12 SURROUND ON/OFF button
13 SET UP button
14 EFFECT/DELAY TIME button
15 SURROUND MODE button
16 Numeral (1 to 0) button
17 Display window
18 DIRECT button
19 SHIFT button
20 MEMORY button
21 AM button
22 TUNING + button
23 FM button
24 TUNING – button
25 PHONES jack
26 SPEAKERS ⎓ ON/⏏ OFF button

This section is extracted from instruction manual.

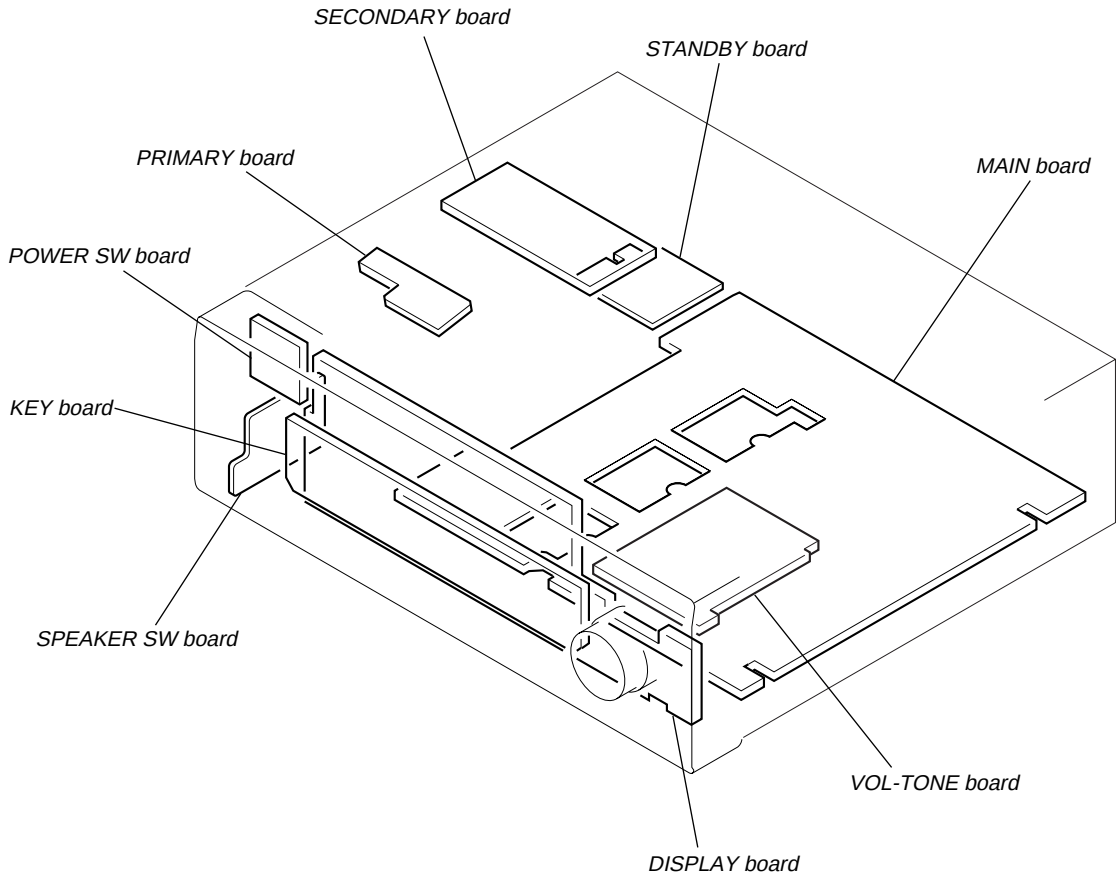
Rear Panel Descriptions



1 ANTENNA
2 CD
3 TAPE/MD
4 TV/DBS
5 VIDEO
6 MIX AUDIO OUT
7 REAR
8 CENTER
9 FRONT
10 AC OUTLET
11 AC power cord

SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- **B+** : B+ Line.
- **B−** : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

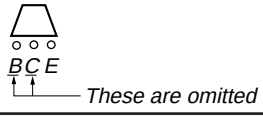
For printed wiring boards.

Note:

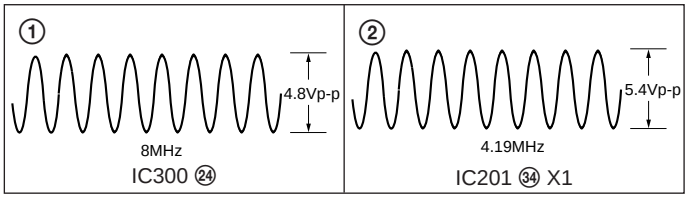
- o——— : parts extracted from the component side.
- ▒▒▒ : Pattern of the conductor side.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

- **Indication of transistor**

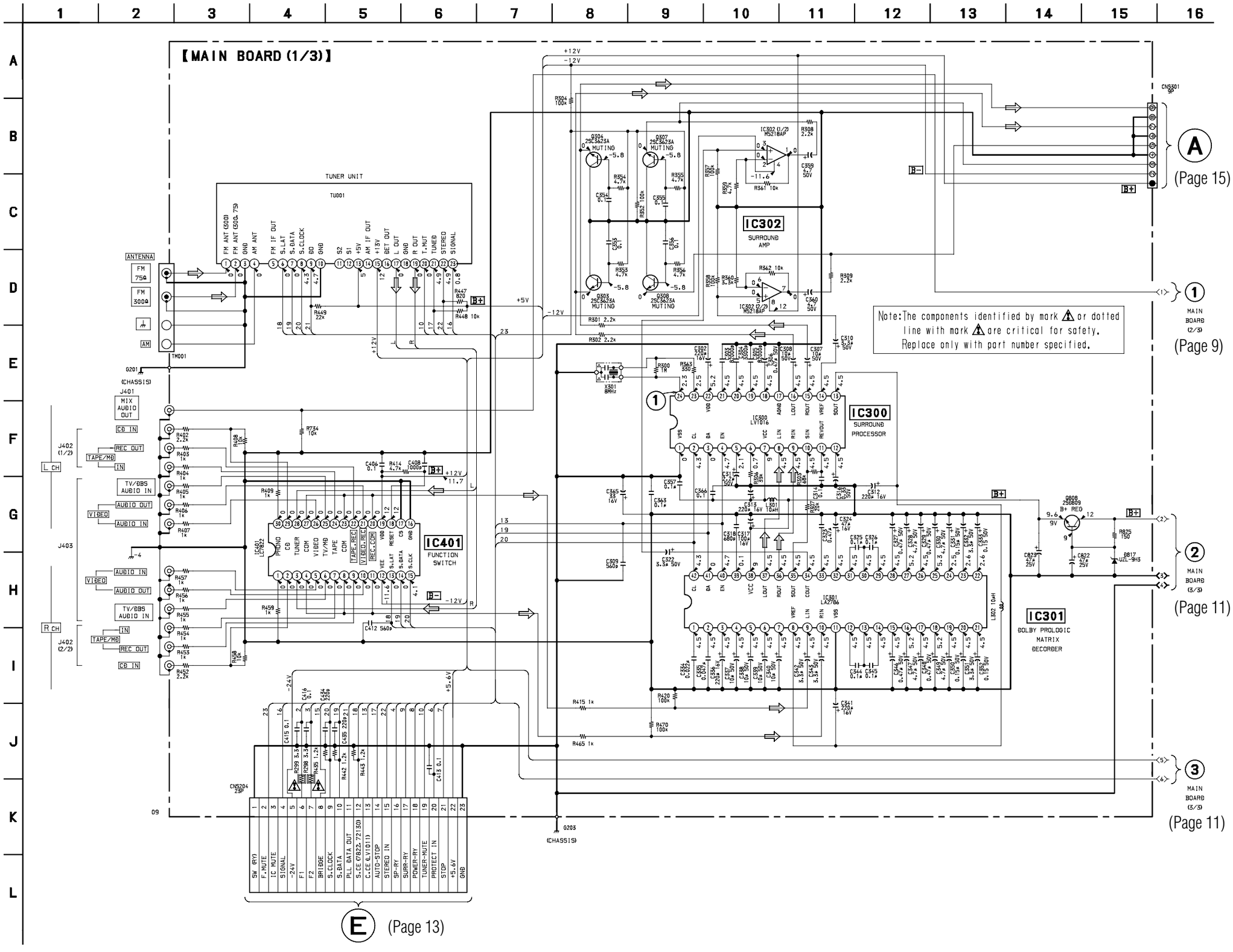


WAVEFORMS



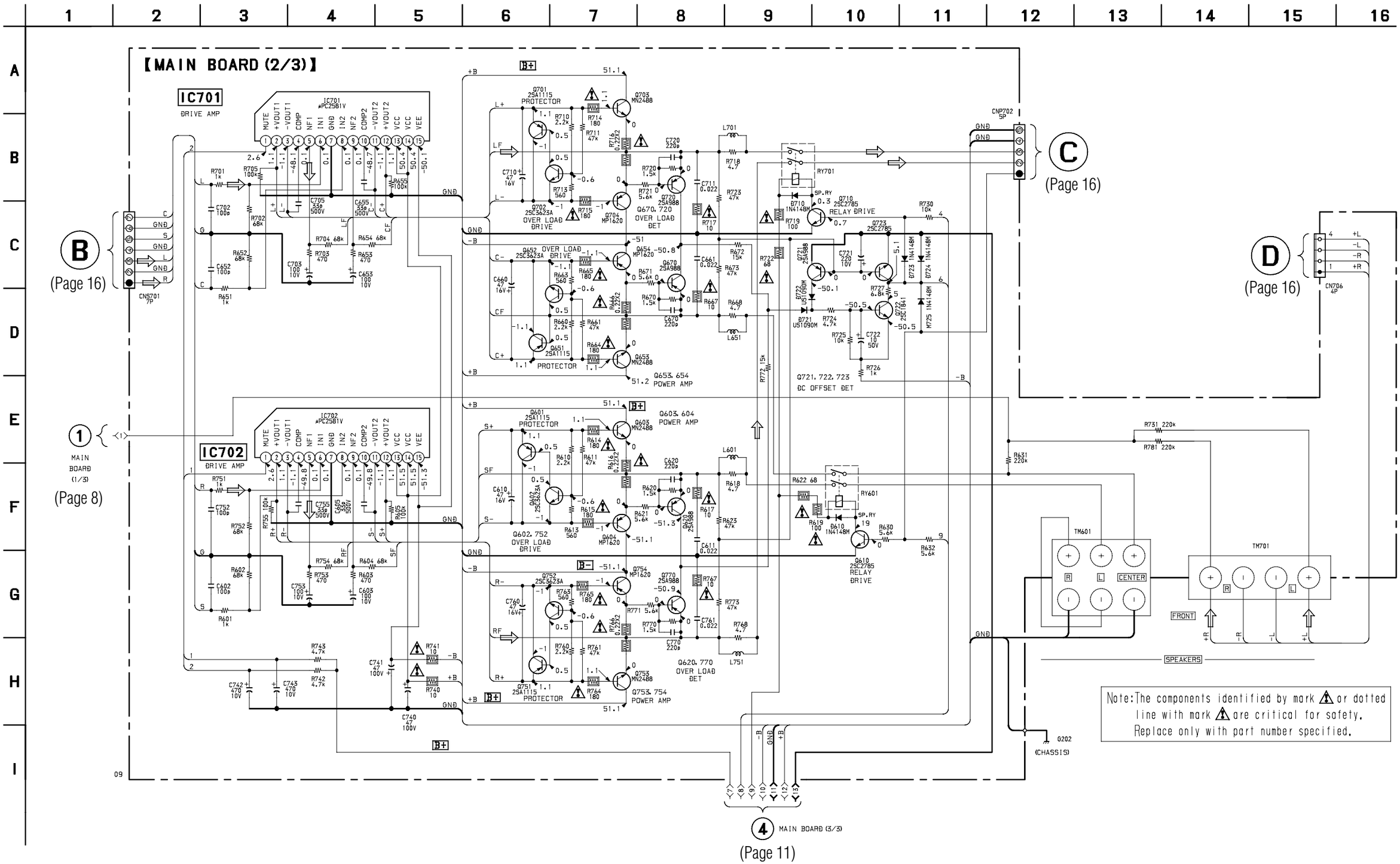
3-2. SCHEMATIC DIAGRAM – MAIN (1/3) SECTION –

- See page 6 for Waveforms.
- See page 17 for Printed Wiring Board.
- See page 33 for IC Pin Functions.
- See page 35 for IC Block Diagrams.



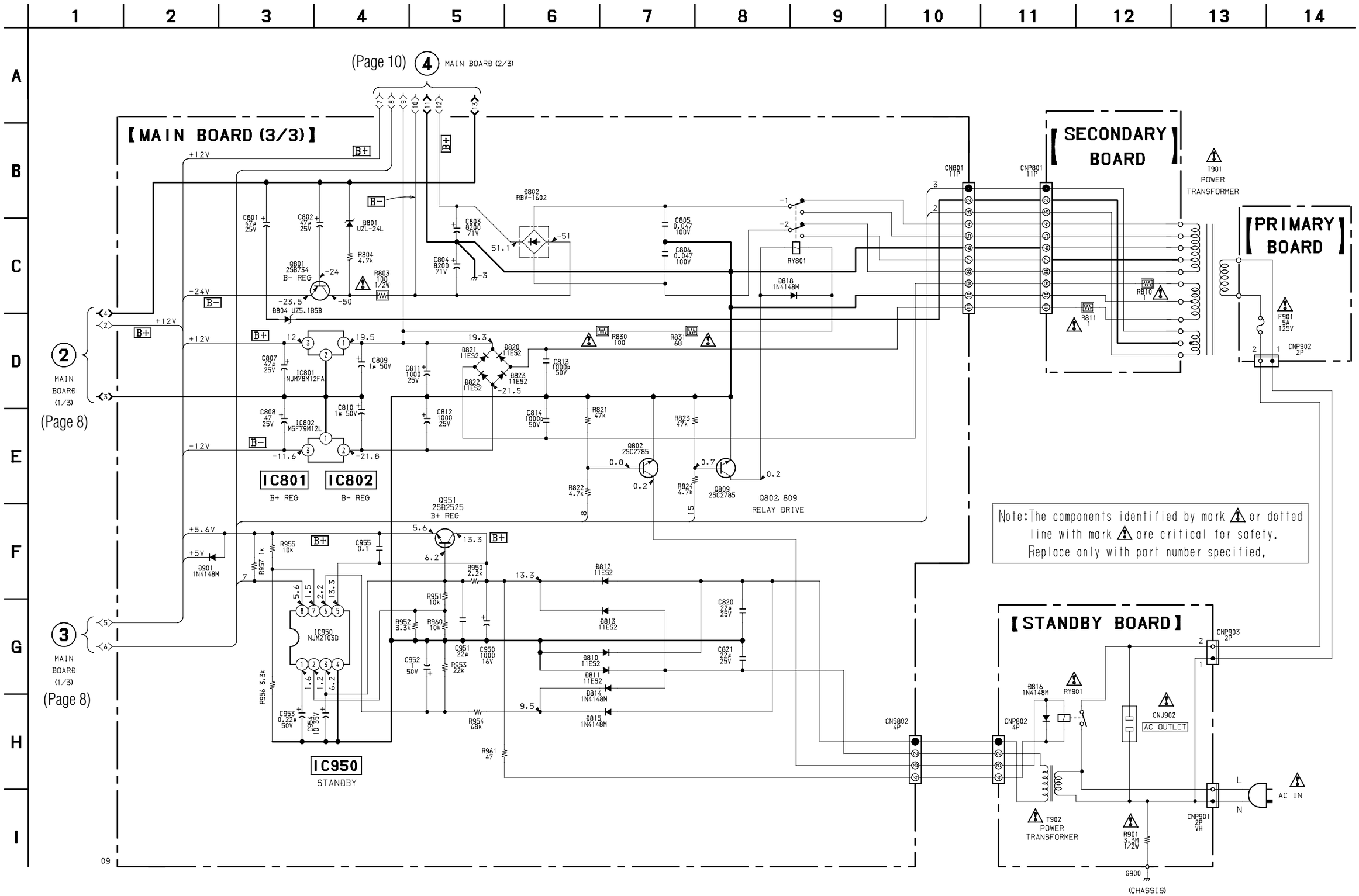
3-3. SCHEMATIC DIAGRAM – MAIN (2/3) SECTION –

- See page 17 for Printed Wiring Board.
- See page 35 for IC Block Diagrams.



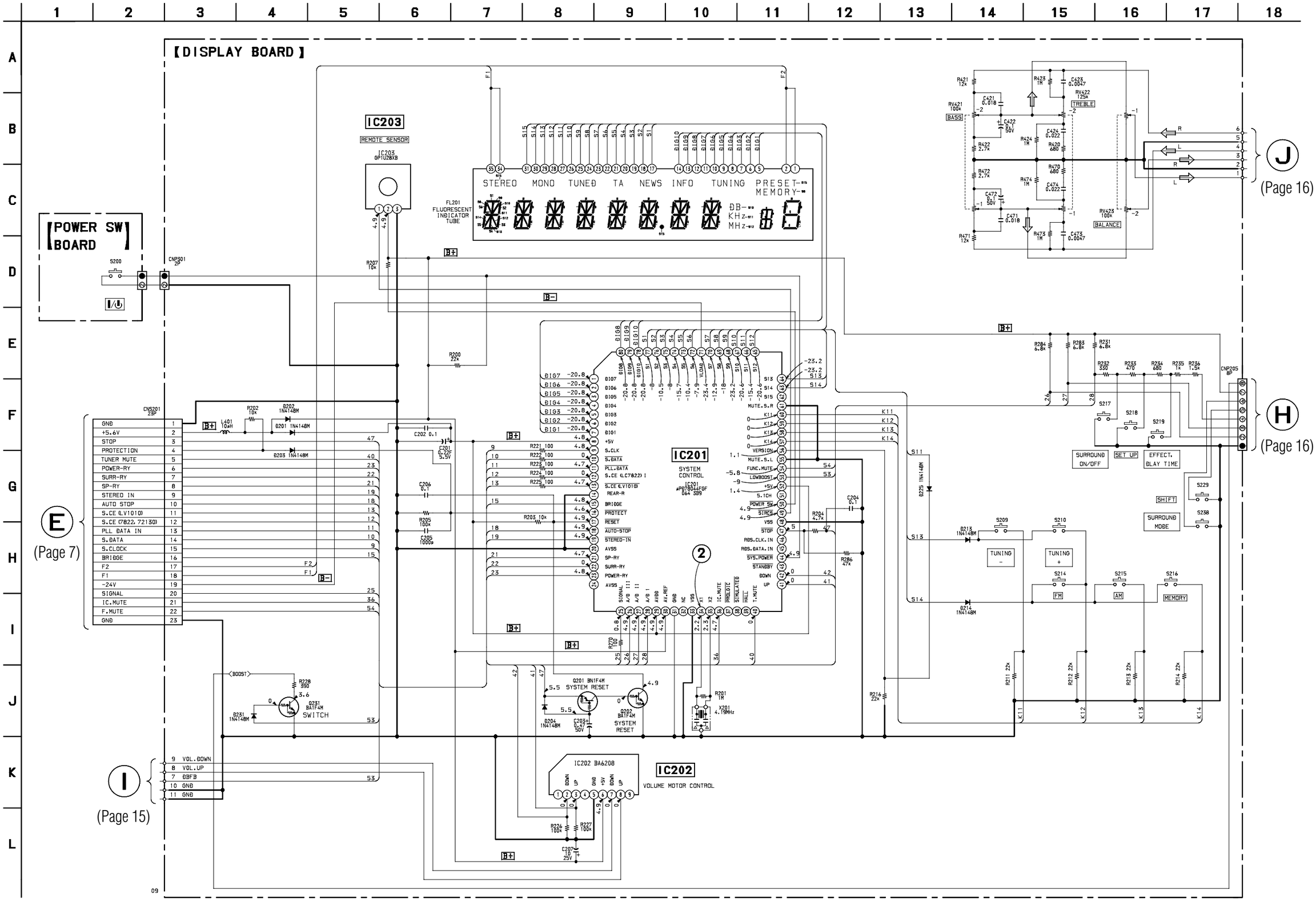
3-4. SCHEMATIC DIAGRAM – MAIN (3/3) SECTION –

- **See page 17 for Printed Wiring Board.**
- **See page 35 for IC Block Diagrams.**



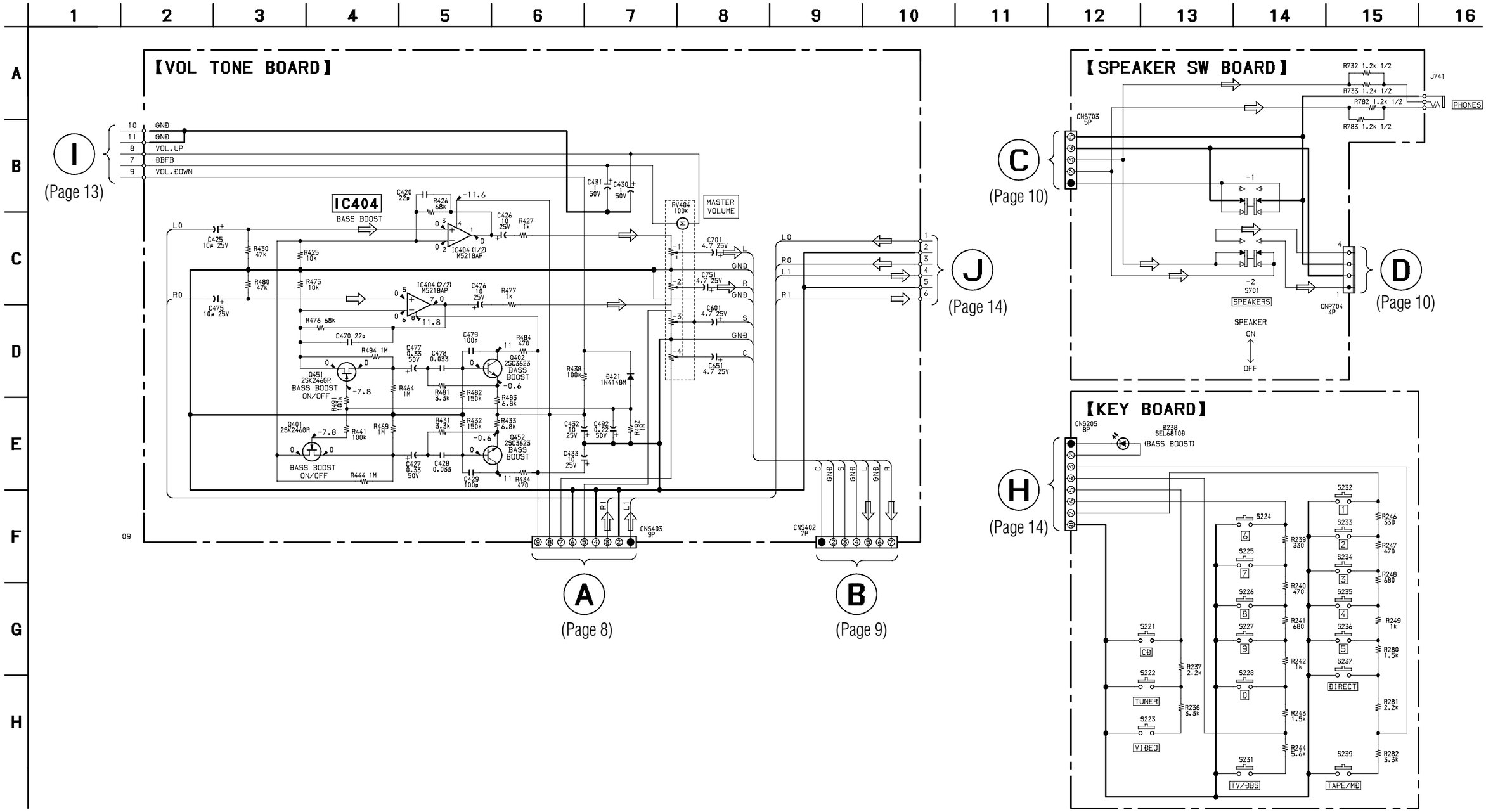
3-5. SCHEMATIC DIAGRAM – DISPLAY SECTION –

- See page 6 for Waveforms.
- See page 25 for Printed Wiring Board.
- See page 35 for IC Block Diagrams.



3-6. SCHEMATIC DIAGRAM – PANEL SECTION –

- **See page 31 for Printed Wiring Board.**



3-7. PRINTED WIRING BOARD – MAIN SECTION –

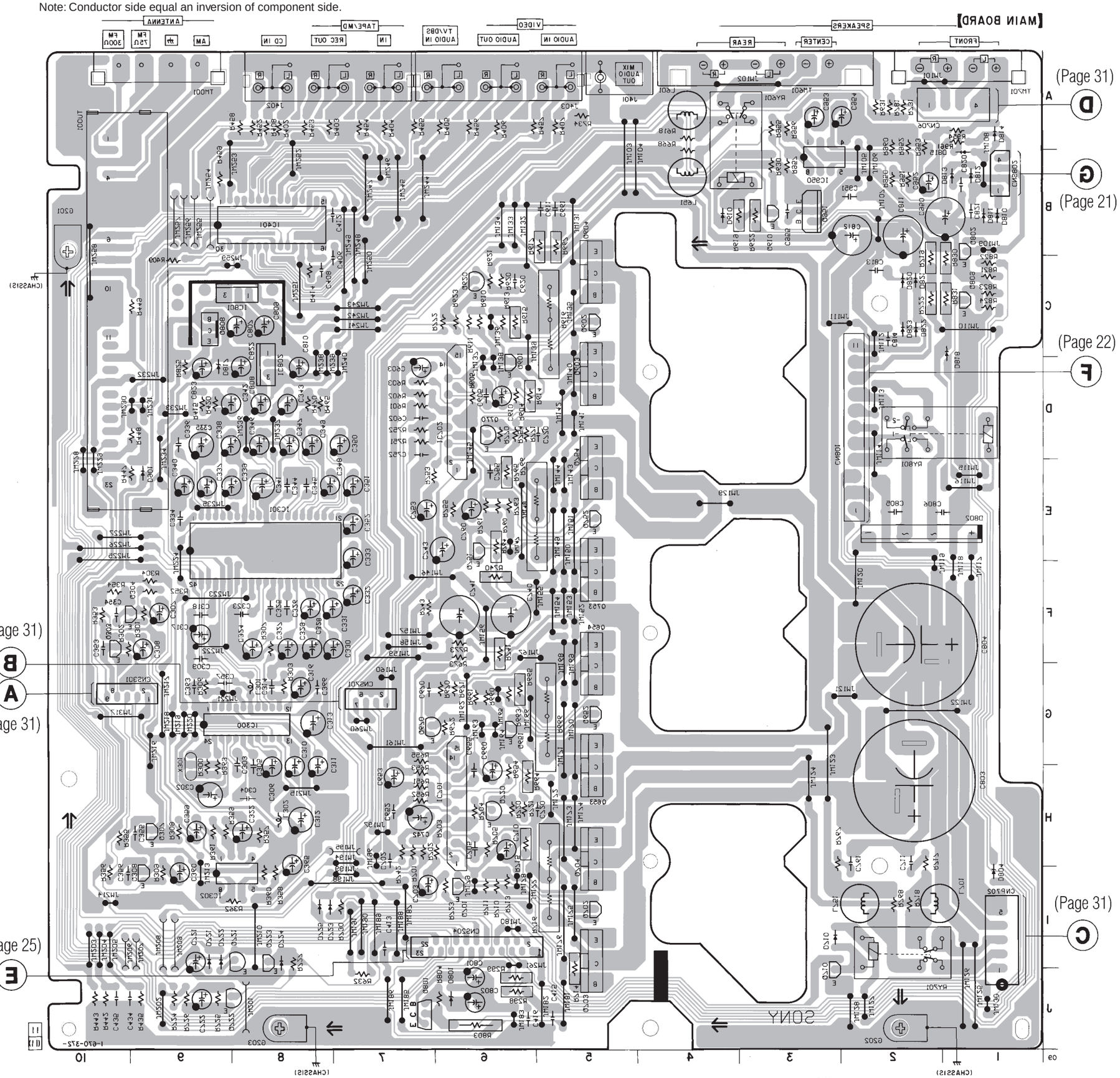
• See page 6 for Circuit Boards Location.

(Conductor Side)

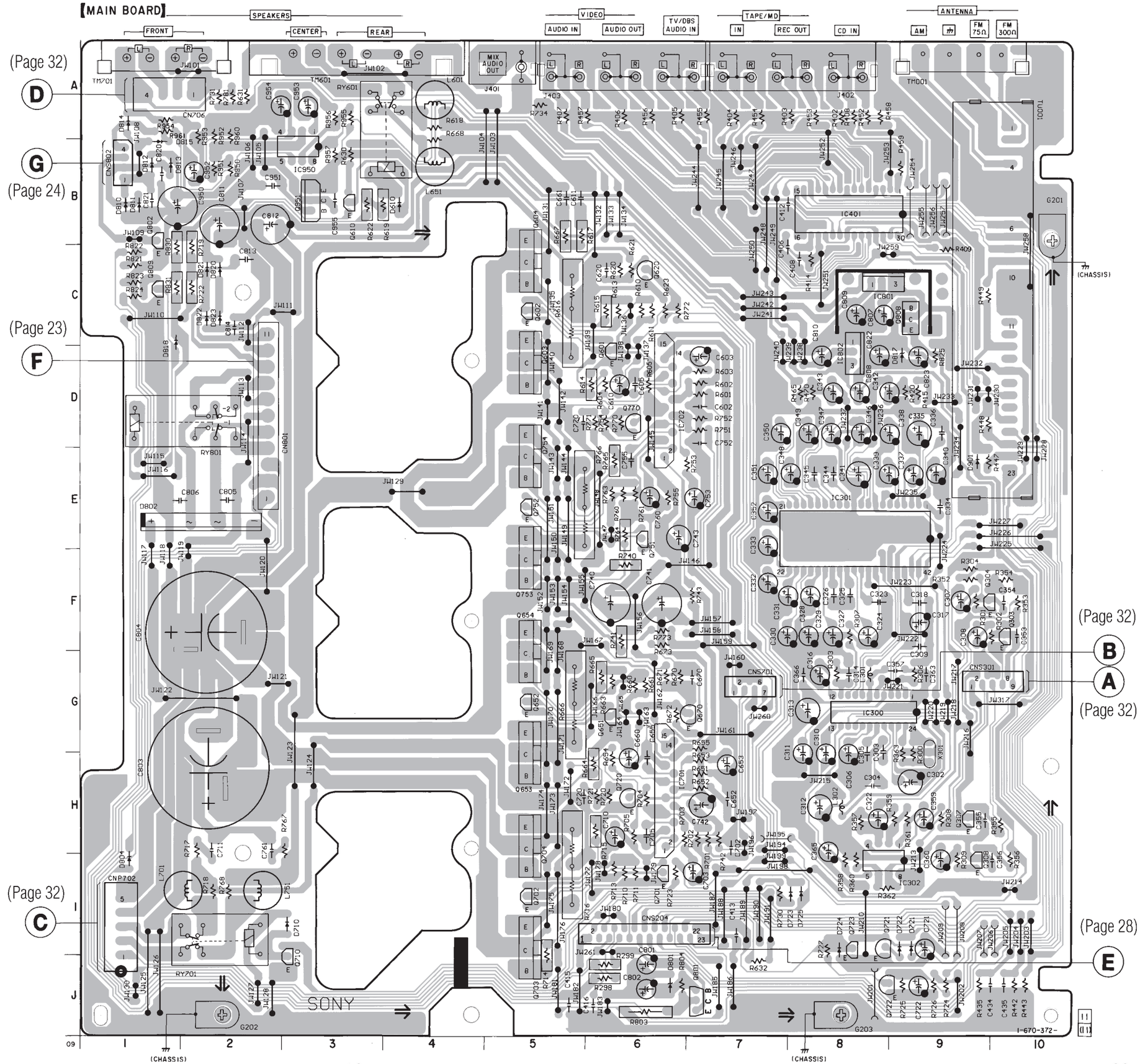
Note: Conductor side equal an inversion of component side.

• **Semiconductor Location**

Ref. No.	Location
D610	B-4
D710	I-3
D721	I-9
D722	I-9
D723	I-7
D724	I-8
D725	I-8
D801	J-6
D802	E-1
D804	I-1
D810	B-1
D811	B-1
D812	B-1
D813	B-1
D814	A-1
D815	A-1
D817	D-9
D818	C-1
D820	C-2
D821	C-2
D822	B-2
D823	B-2
D901	E-9
IC300	G-8
IC301	E-8
IC302	I-8
IC401	B-8
IC701	H-6
IC702	D-6
IC801	C-8
IC802	D-8
IC950	B-3
Q303	F-10
Q304	F-9
Q307	H-9
Q308	I-9
Q601	D-6
Q602	C-5
Q603	D-5
Q604	C-5
Q610	B-3
Q620	C-6
Q651	G-6
Q652	G-5
Q653	H-5
Q654	F-5
Q670	G-6
Q701	I-6
Q702	I-5
Q703	H-5
Q704	H-5
Q710	J-3
Q720	H-6
Q721	I-8
Q722	J-8
Q723	I-8
Q751	E-6
Q752	E-5
Q753	F-5
Q754	E-5
Q770	D-6
Q801	J-7
Q802	B-1
Q808	C-9
Q809	C-1
Q951	B-3



(Component Side)

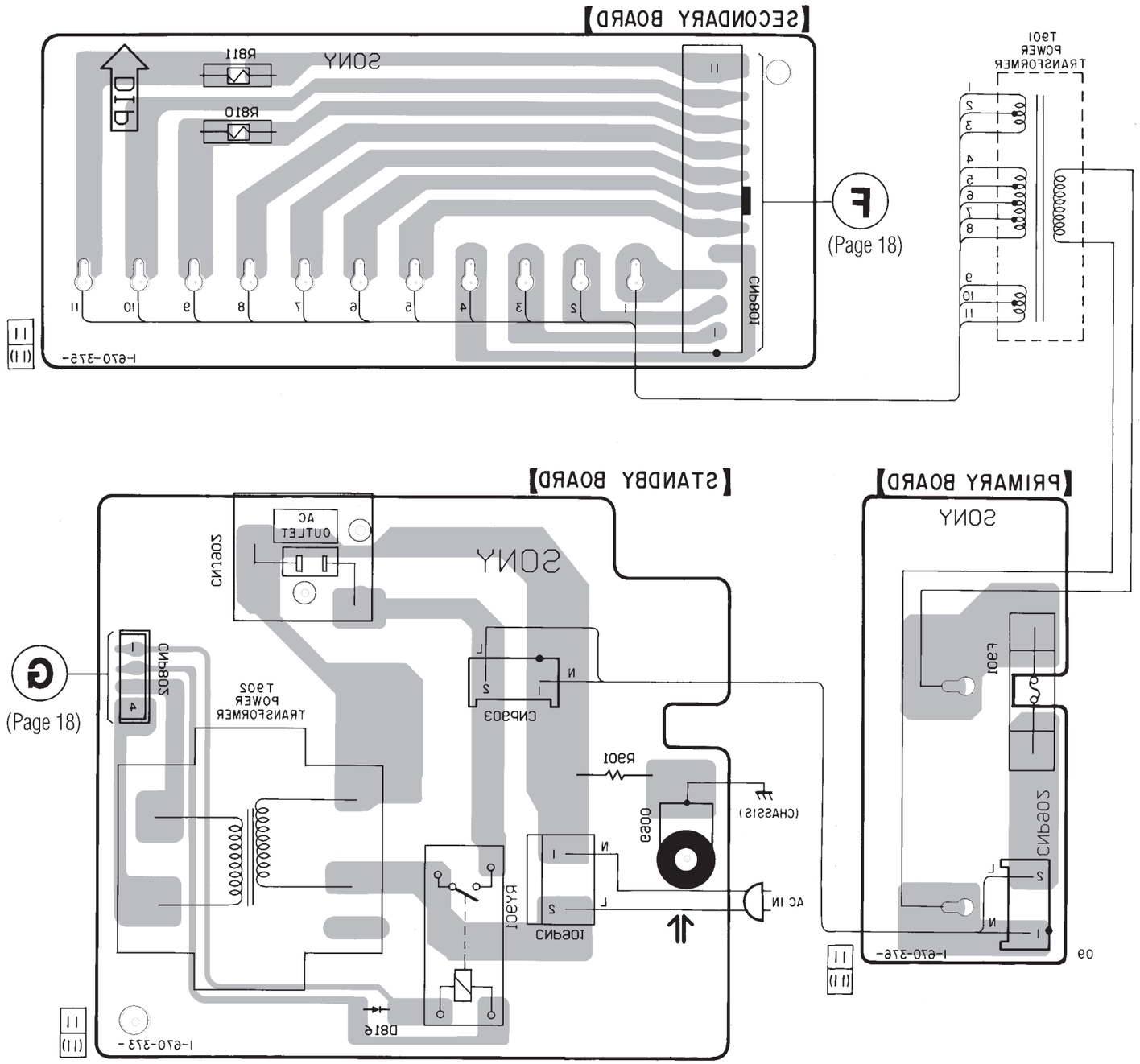


3-8. PRINTED WIRING BOARD – POWER SECTION –

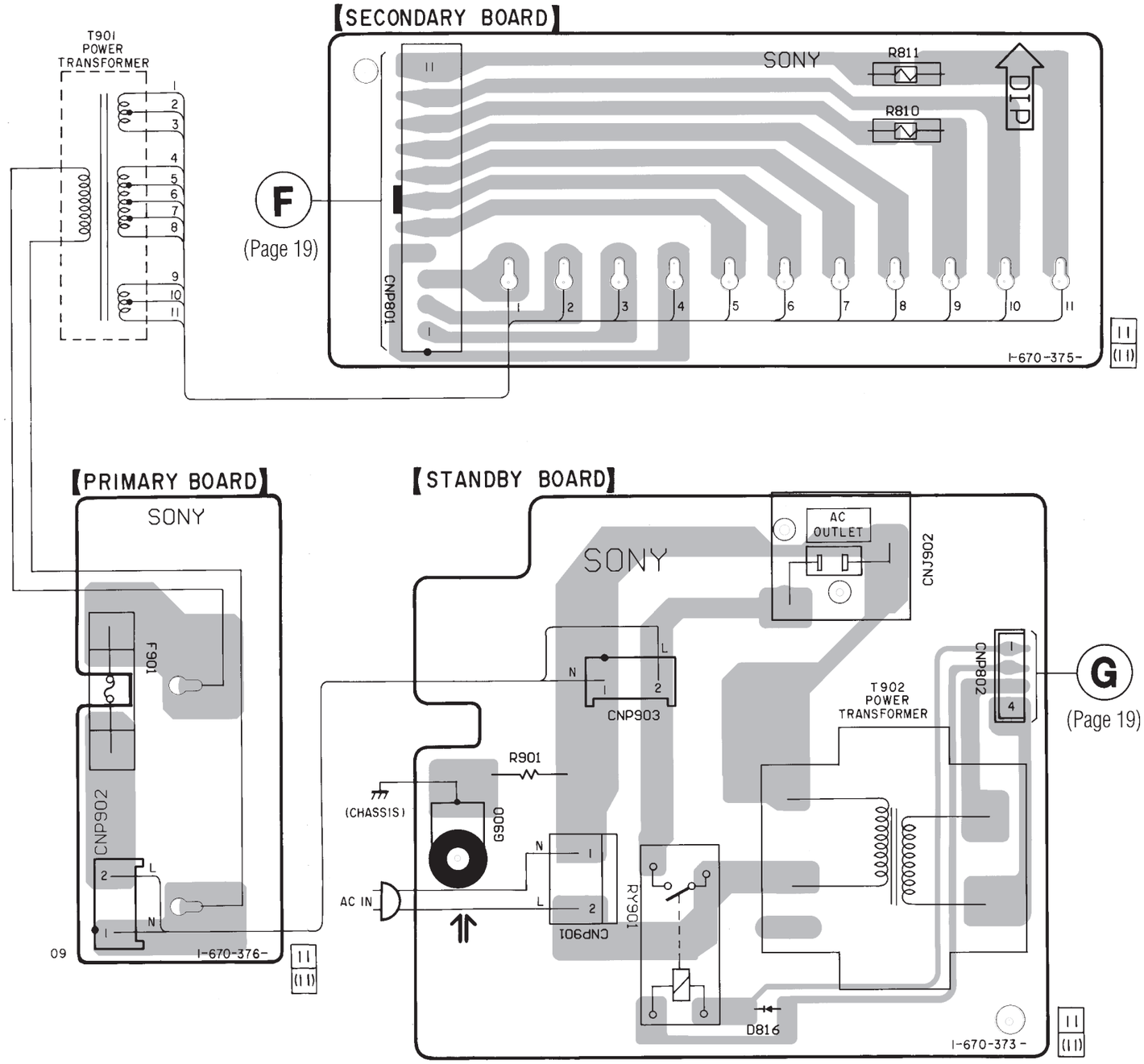
• See page 6 for Circuit Boards Location.

(Conductor Side)

Note: Conductor side equal an inversion of component side.



(Component Side)

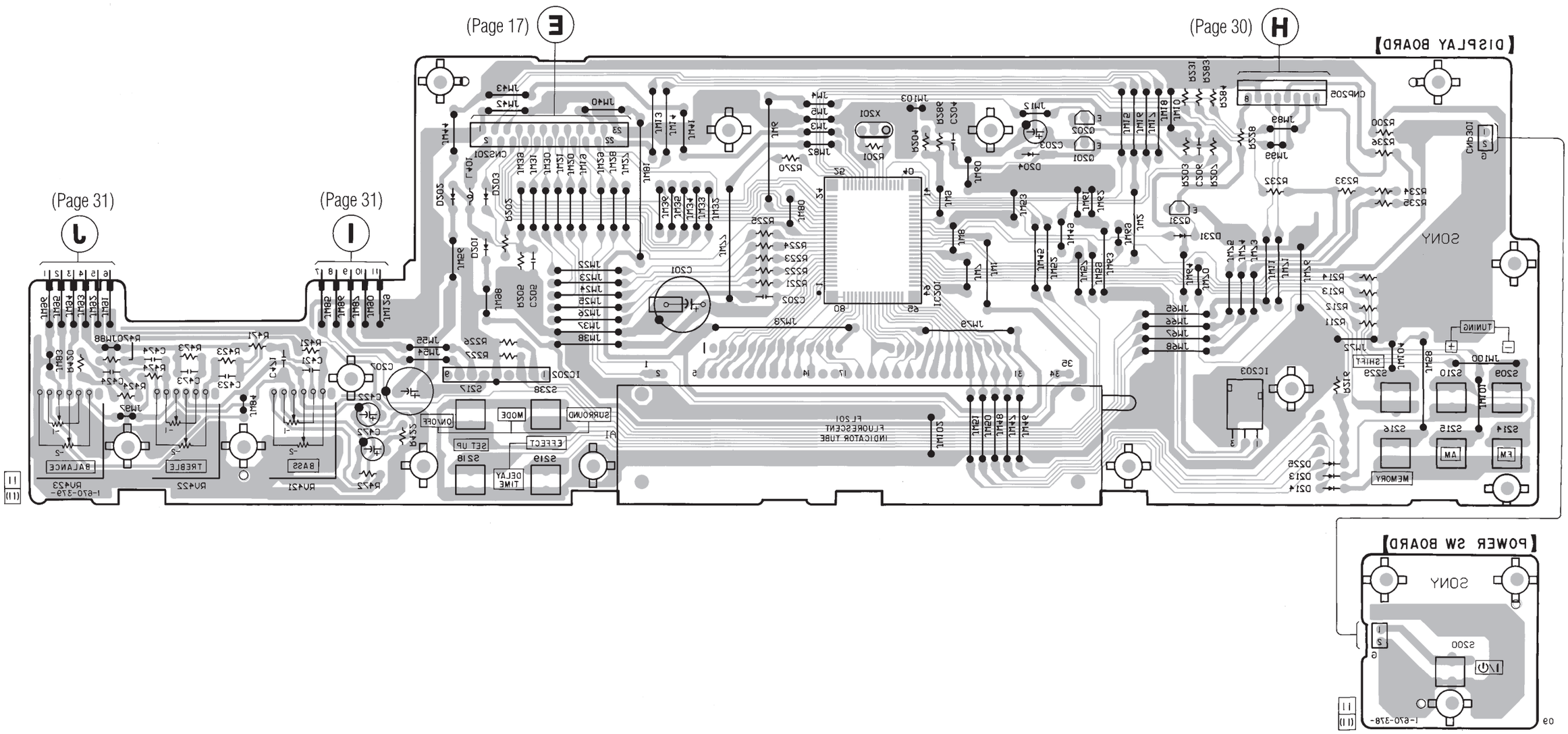


3-9. PRINTED WIRING BOARD – DISPLAY SECTION –

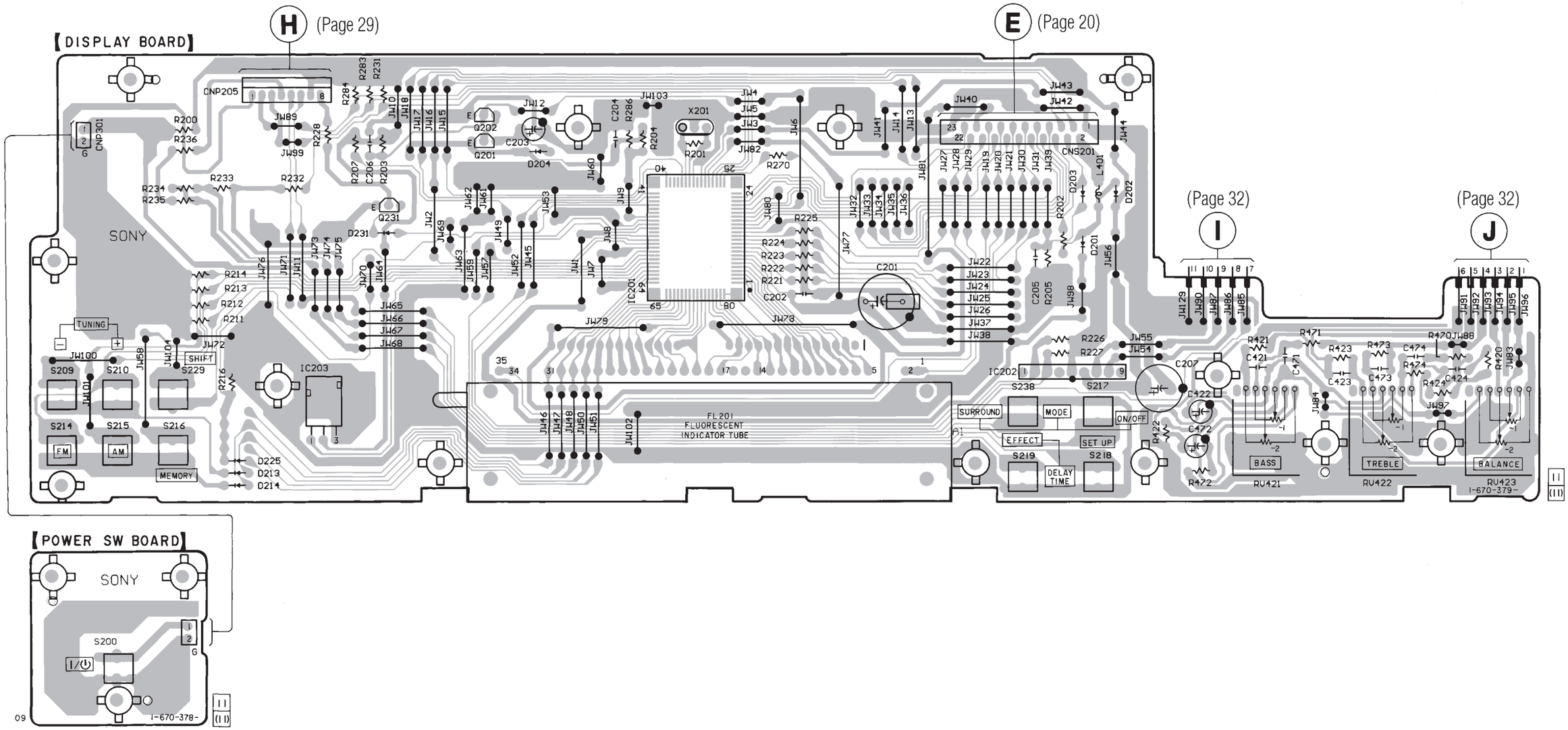
• See page 6 for Circuit Boards Location.

(Conductor Side)

Note: Conductor side equal an inversion of component side.



(Component Side)

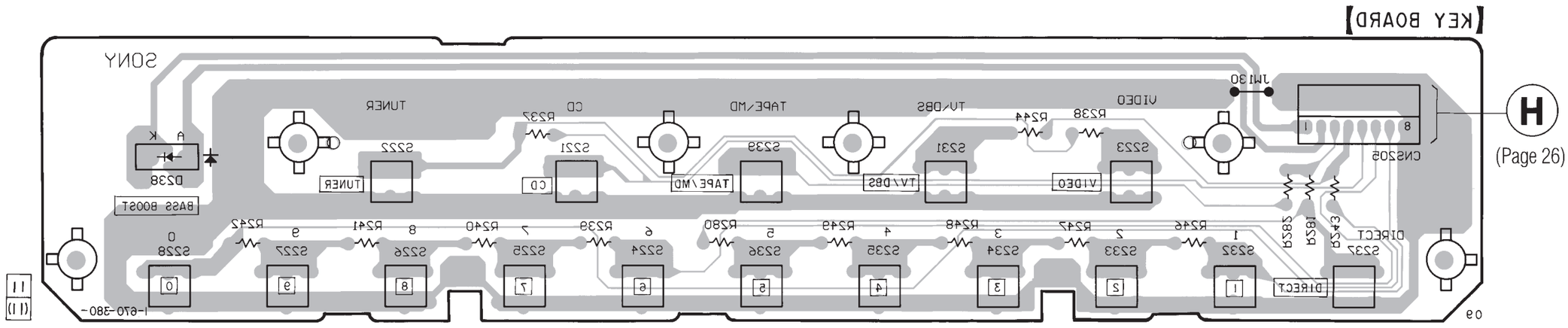


3-10. PRINTED WIRING BOARD – KEY SECTION –

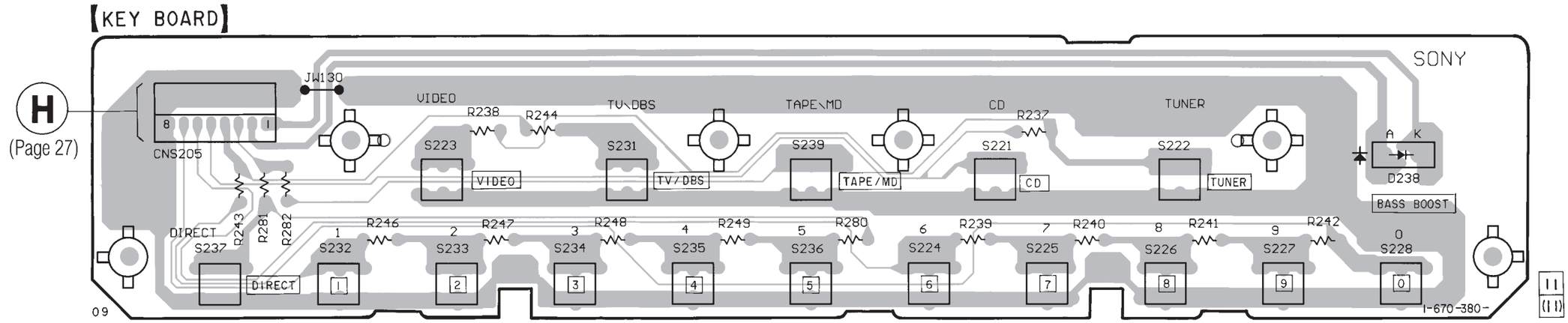
• See page 6 for Circuit Boards Location.

(Conductor Side)

Note: Conductor side equal an inversion of component side.



(Component Side)

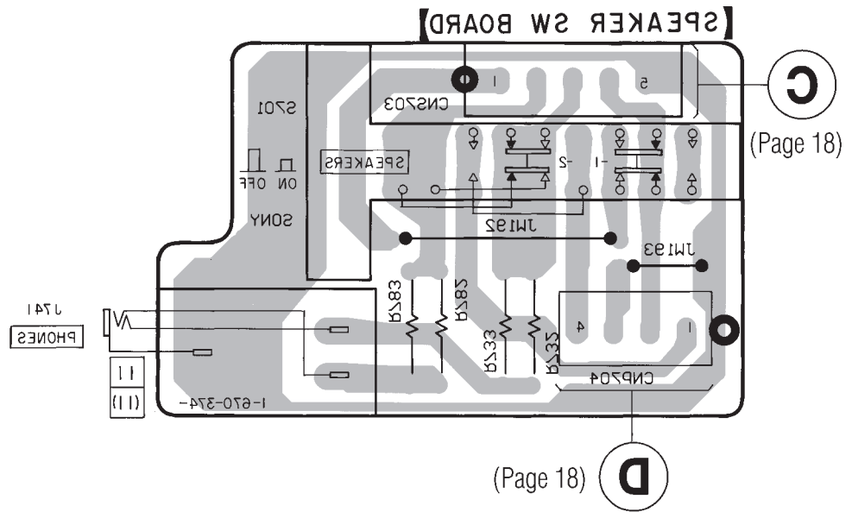


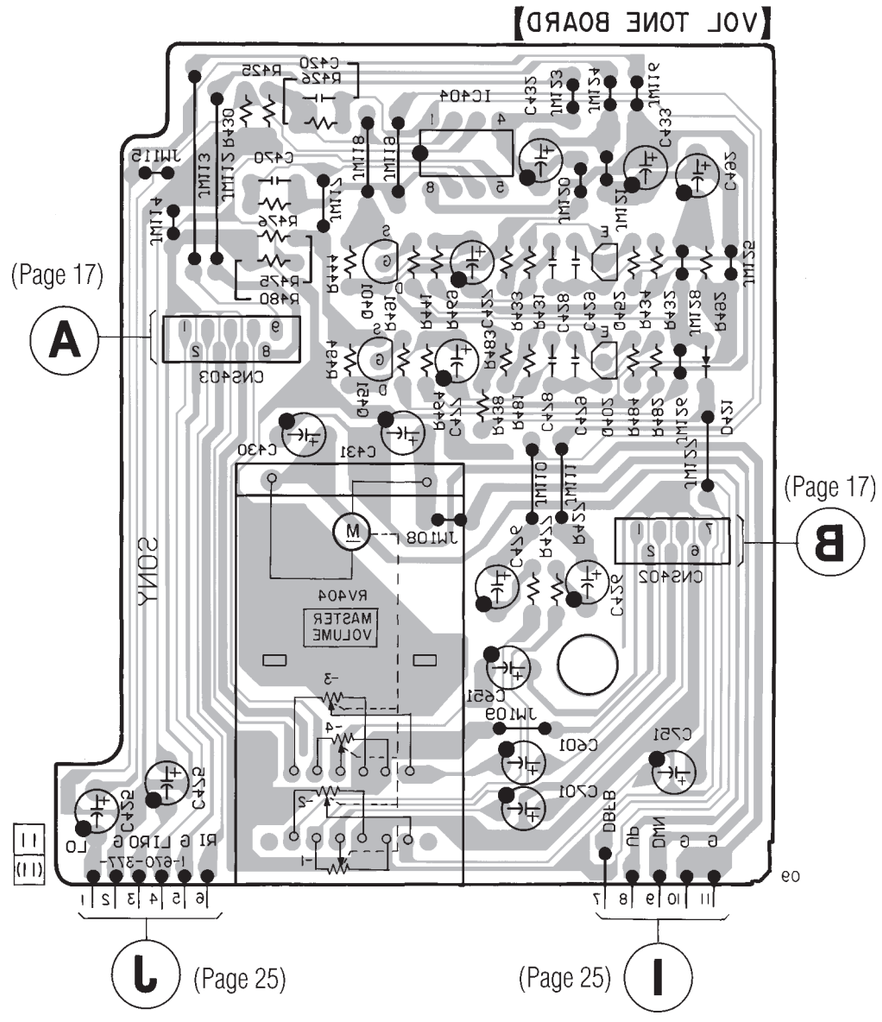
3-11. PRINTED WIRING BOARD – PANEL SECTION –

• See page 6 for Circuit Boards Location.

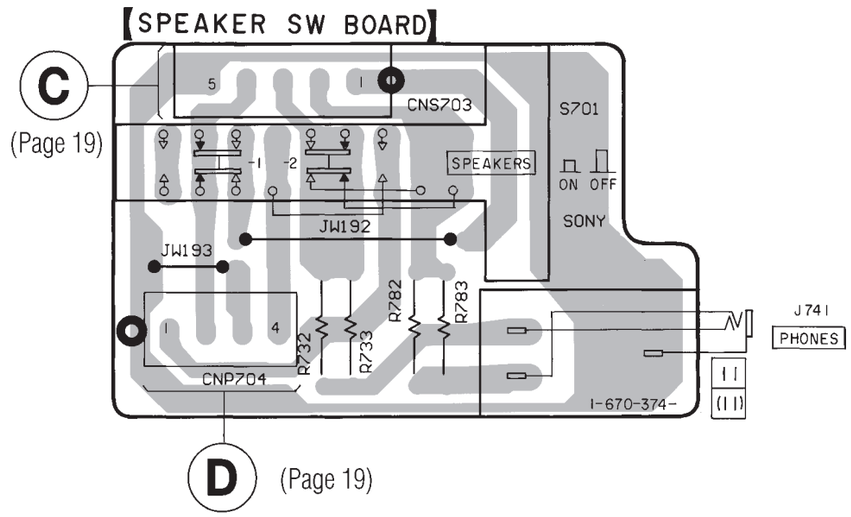
(Conductor Side)

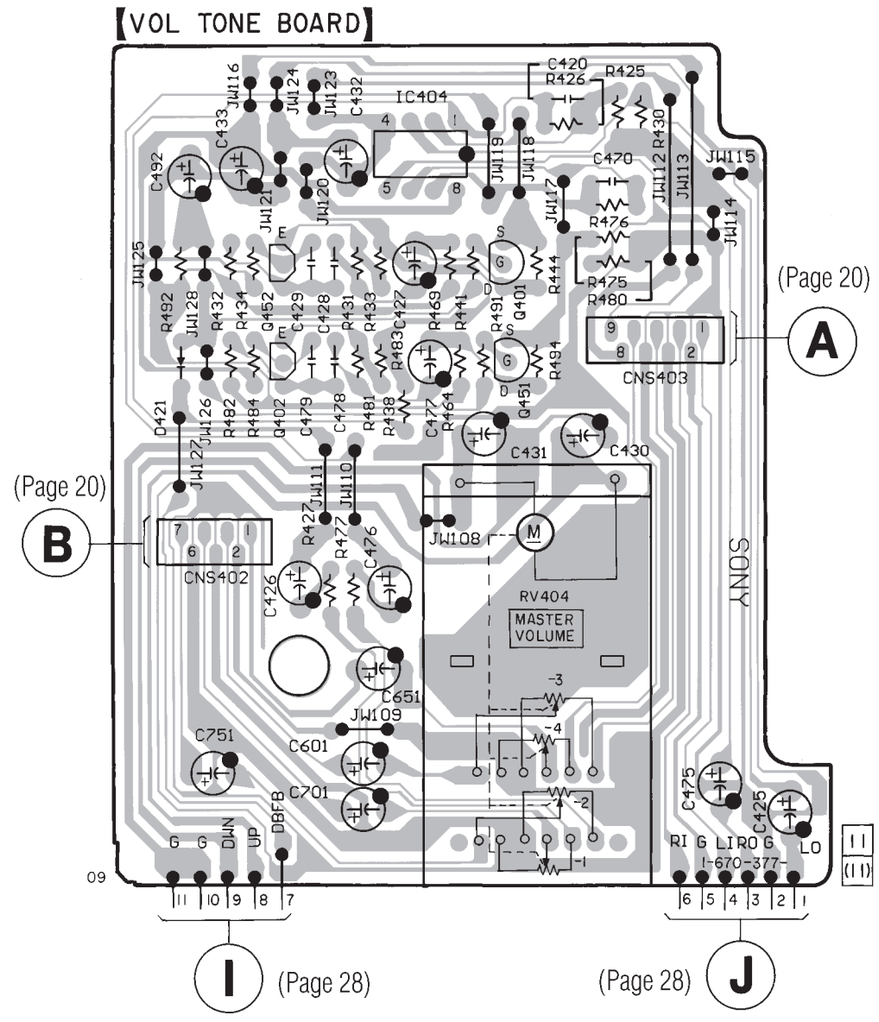
Note: Conductor side equal an inversion of component side.





(Component Side)





3-12. IC PIN FUNCTIONS

• **IC201 uPD78044FGF-064-3B9**

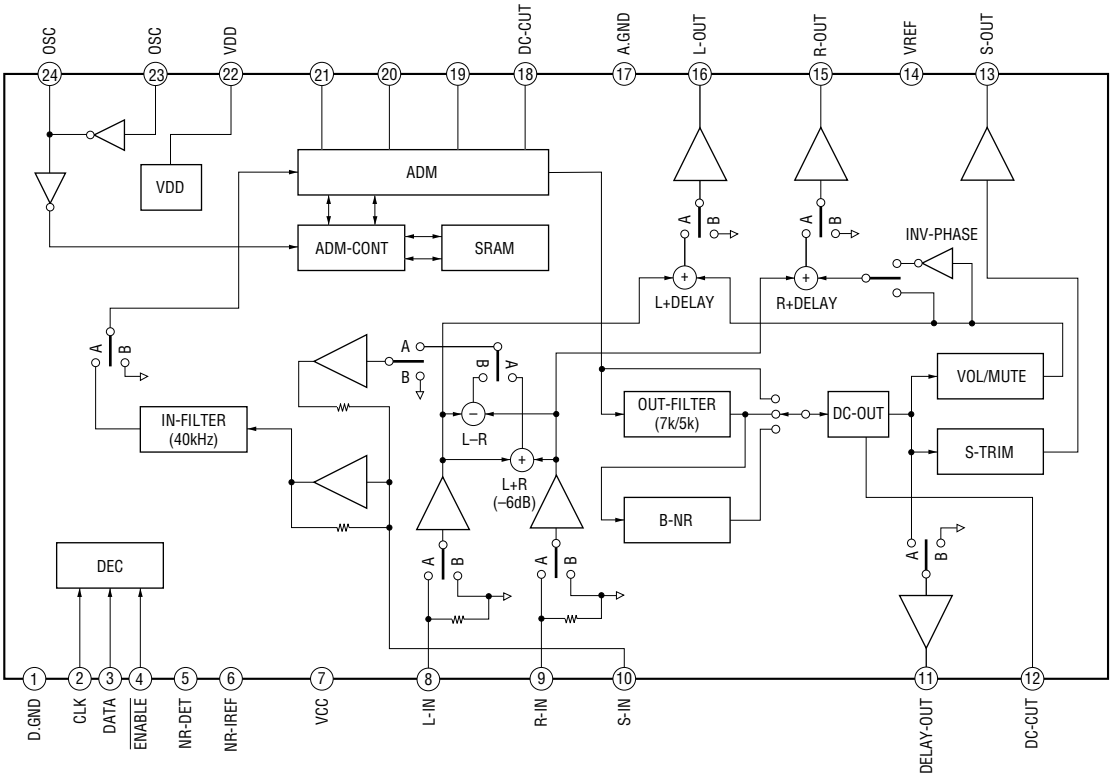
Pin No.	Pin Name	I/O	Function
1	DIG7	O	Fluorescent indicator tube drive
2	DIG6	O	
3	DIG5	O	
4	DIG4	O	
5	DIG3	O	
6	DIG2	O	
7	DIG1	O	
8	+5V	—	Power supply (+5V)
9	$\overline{\text{S. CLK}}$	I	System clock
10	$\overline{\text{S. DATA}}$	I	System data
11	$\overline{\text{PLL. DATA}}$	I	PLL data input from TU001
12	S. CE (LC7288)	O	Chip enable output
13	$\overline{\text{S. CE (LV1010)}}$	O	Chip enable output
14	REAR-R	I	Input for model select (Connected to ground)
15	BRIDGE	I	Protector detect input
16	$\overline{\text{PROTECT}}$	I	Protector detect input
17	$\overline{\text{RESET}}$	I	System reset terminal
18	$\overline{\text{AUTO-STOP}}$	I	Auto stop detect input
19	$\overline{\text{STEREO-IN}}$	I	Stereo detect input
20	AVSS	—	Ground (Not used)
21	SP-RY	O	Speaker relay drive
22	SURR-RY	O	Surround Relay
23	POWER-RY	O	Power relay drive
24	AVSS	—	Ground
25	SIGNAL	I	A/D signal input terminal
26	A/D3	I	A/D3 key input terminal
27	A/D2	I	A/D2 key input terminal
28	A/D1	I	A/D1 key input terminal
29	AVDD	—	Power supply (+5V)
30	AV. REF	—	Reference voltage (+5V)
31	GND	—	Ground
32	NC	—	Not used (Open)
33	VSS	—	Ground
34	X1	I	System clock (4.19MHz)
35	X2	O	System clock (4.19MHz)
36	IC. MUTE	O	Mute drive output for µPD2581V (IC701)
37	$\overline{\text{PROLOGIC}}$	O	Plologic LED (Not used)
38	$\overline{\text{SIMULATED}}$	O	CINEMA STUDIO LED (Not used)
39	$\overline{\text{HALL}}$	O	HALL LED (Not used)
40	T. MUTE	O	Tuner mute drive output

Pin No.	Pin Name	I/O	Function
41	VOLUME UP	O	Volume up
42	VOLUME DOWN	O	Volume down
43	$\overline{\text{STANDBY}}$	O	Standby LED drive (Not used)
44	$\overline{\text{SYS. POWER}}$	I	System power ON/OFF
45	RDS. DATA. IN	I	RDS data input (Not used)
46	RDS. CLK. IN	I	RDS clock input (Not used)
47	$\overline{\text{STOP}}$	I	Stop signal input from NJM2103D (IC950)
48	VSS	—	Ground
49	$\overline{\text{SIRCS}}$	I	Sircs signal input
50	POWER SW	I	Power switch input terminal
51	5.1ch LED	—	5.1ch LED drive
52	+5V	—	Power supply (+5V)
53	BASS BOOST	I	Bass boost LED drive
54	FUNC. MUTE	O	Line mute drive
55	SL MUTE	O	SL mute drive
56	VERSION	I	Input for model select
57	K14	I	Key in 4
58	K13	I	Key in 3
59	K12	I	Key in 2
60	K11	I	Key in 1
61	SR MUTE	O	SR mute drive
62	S15	O	Not used
63	S14	O	Fluorescent indicator tube drive
64	S13	O	
65	S12	O	
66	S11	O	
67	S10	O	
68	S9	O	
69	S8	O	
70	S7	O	
71	VLOAD	—	Connect to –24V
72	S6	O	Fluorescent indicator tube drive
73	S5	O	
74	S4	O	
75	S3	O	
76	S2	O	
77	S1	O	
78	DIG10	O	Fluorescent indicator tube drive
79	DIG9	O	
80	DIG8	O	

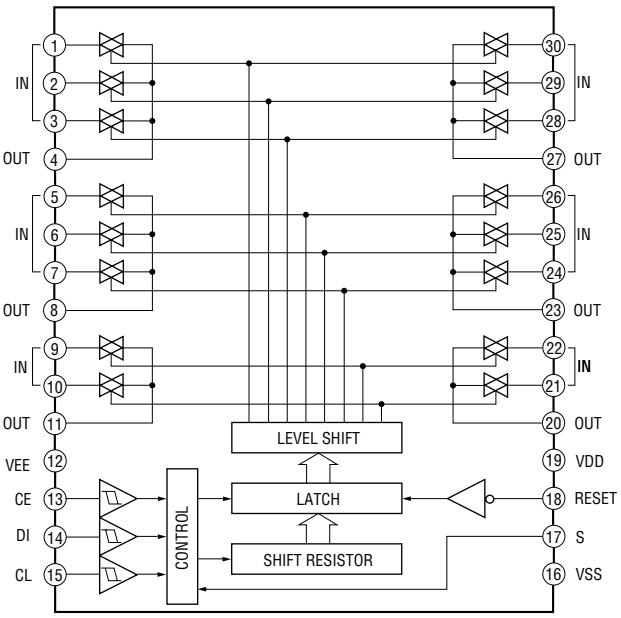
6-13. IC BLOCK DIAGRAMS

• Main section

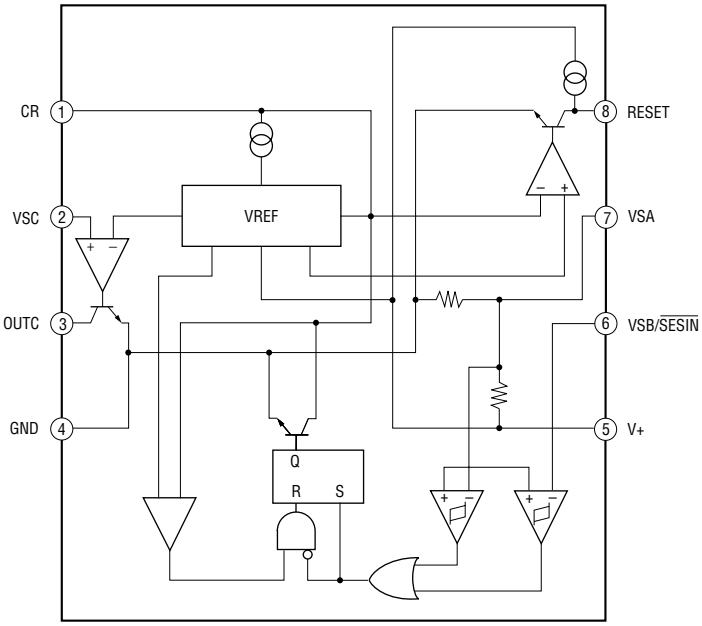
IC300 LV1016



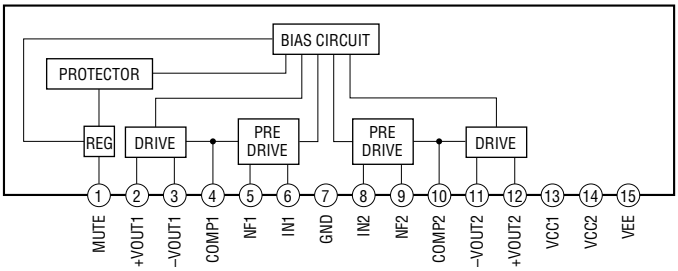
IC401 LC7822



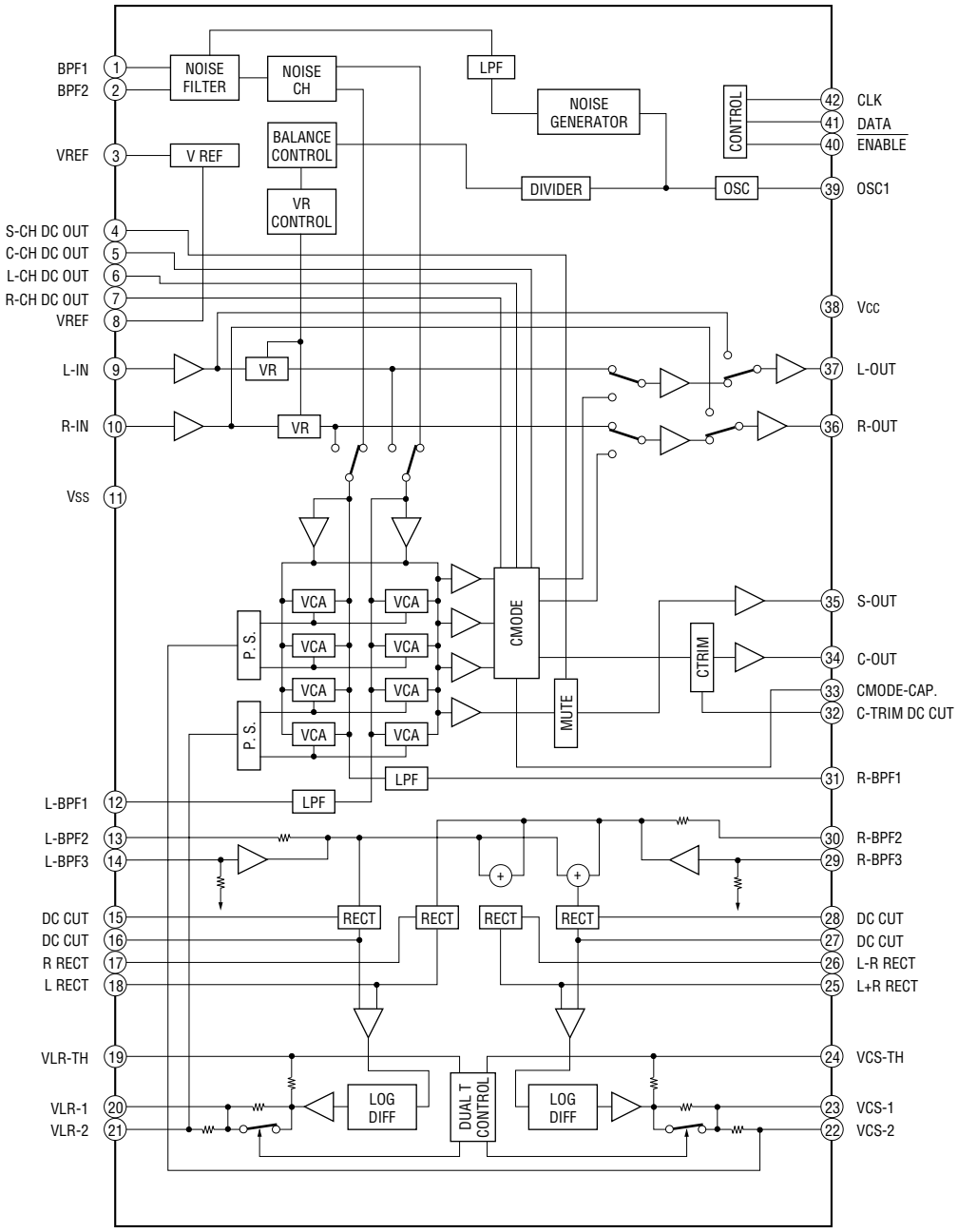
IC950 NJM2103D



IC701, 702 uPC2581

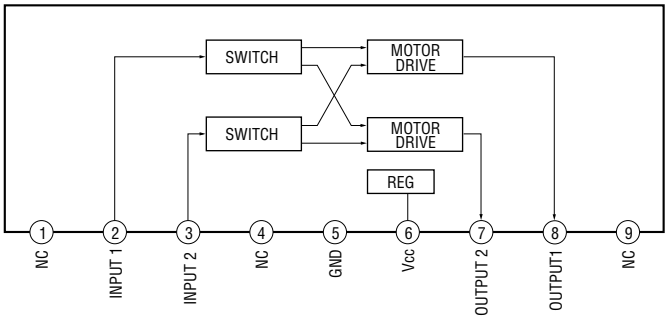


IC301 LA2786



• Display section

IC202 BA6208

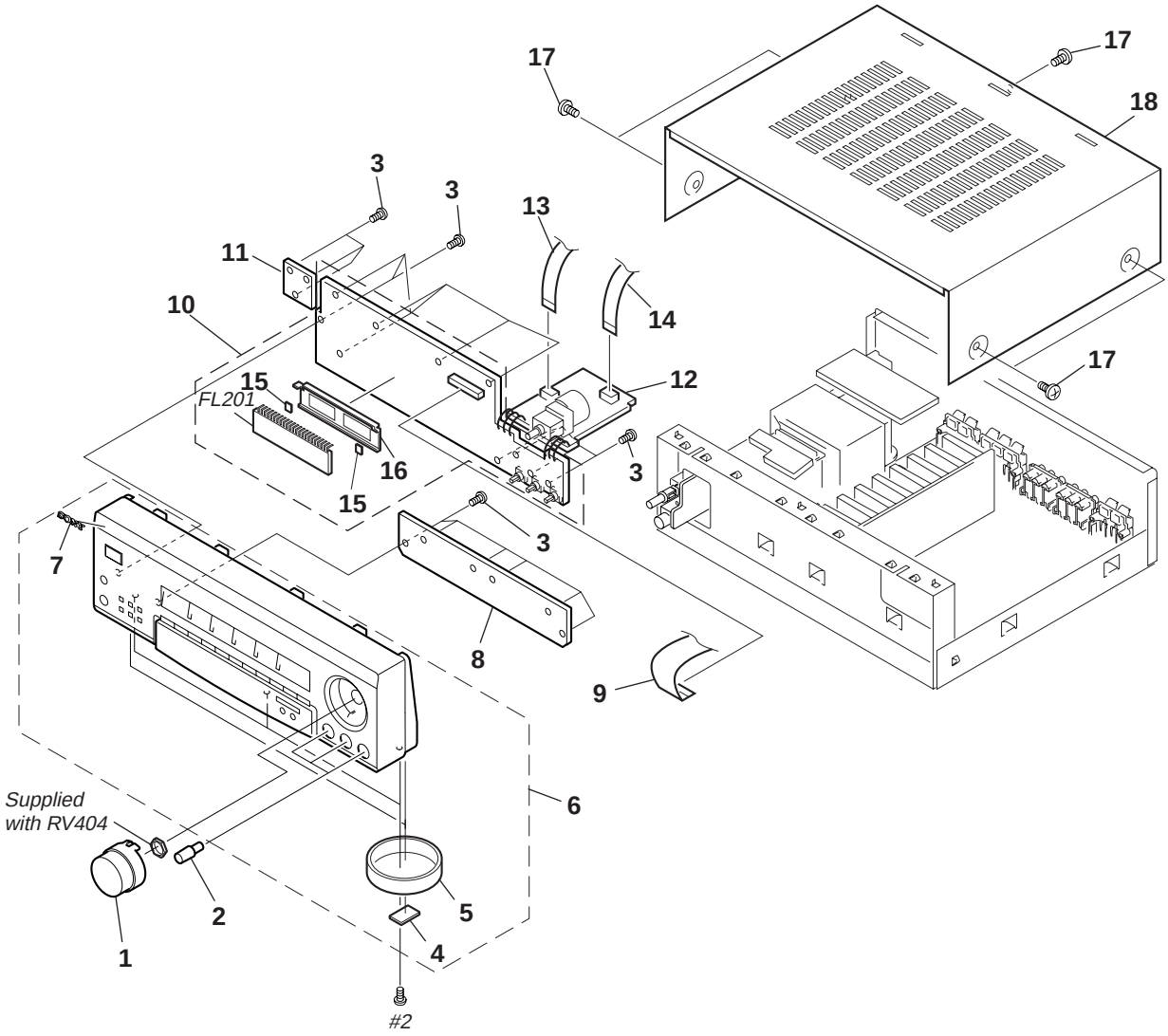


SECTION 4
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

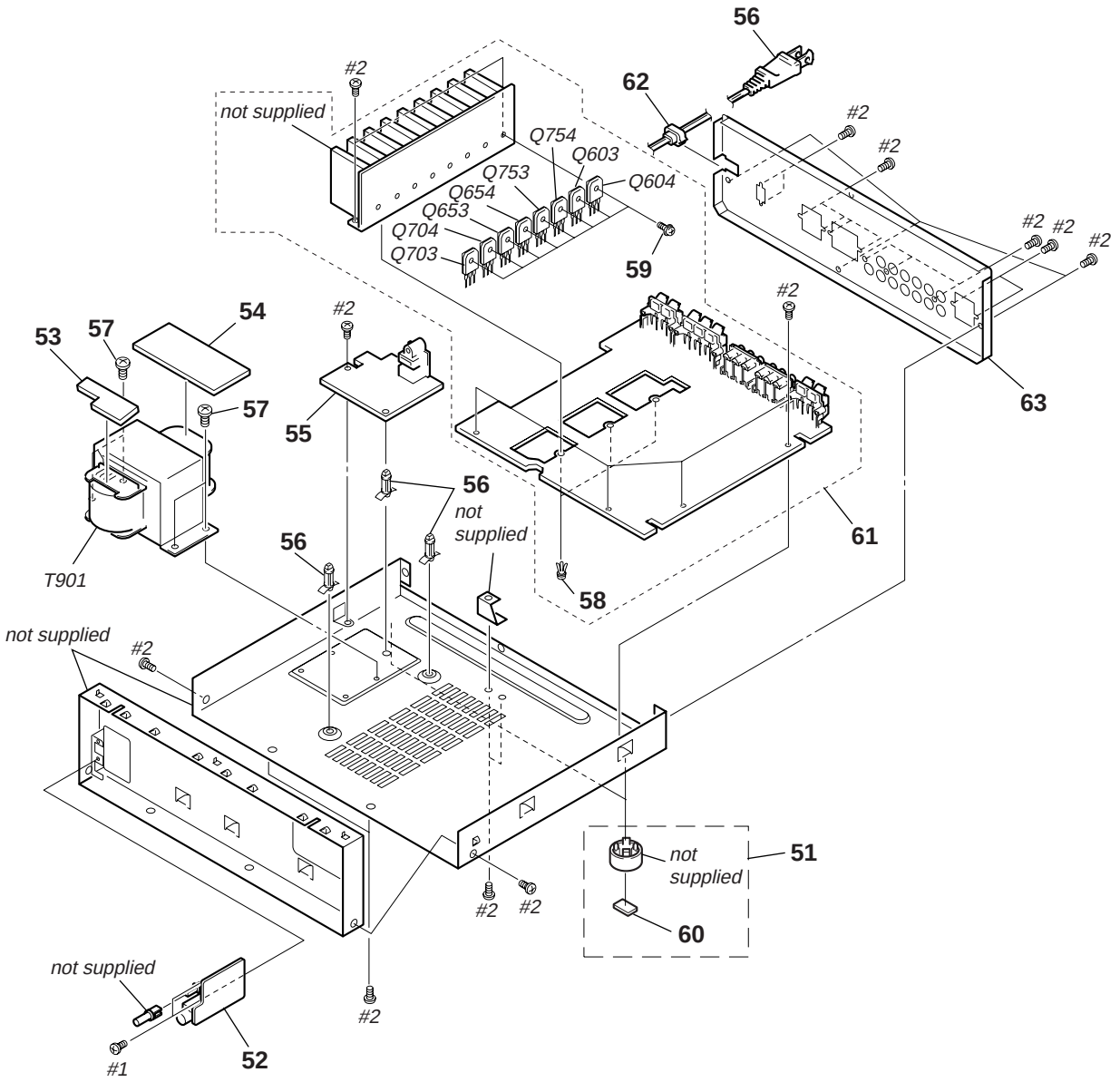
4-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	A-4411-215-A	KNOB ASSY	
2	4-210-373-01	KNOB (EQ)	
3	4-951-620-01	SCREW (2.6X8), +BVTP	
* 4	4-978-398-21	CUSHION	
5	4-977-593-01	RING (DIA. 50), ORNAMENTAL	
6	A-4411-214-A	PANEL ASSY, FRONT	
7	4-996-698-41	EMBLEM, SONY	
* 8	A-4414-899-A	KEY BOARD	
9	1-782-100-11	WIRE (FLAT TYPE) (23 CORE)	
* 10	A-4414-898-A	DISPLAY BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
* 11	1-670-378-11	POWER SW BOARD	
* 12	A-4414-896-A	VOL-TONE BOARD	
13	1-782-074-11	WIRE (FLAT TYPE) (7 CORE)	
14	1-782-075-11	WIRE (FLAT TYPE) (9 CORE)	
* 15	4-921-941-01	CUSHION (FL)	
* 16	4-210-383-01	HOLDER (FL TUBE)	
17	3-704-366-31	SCREW (CASE) (M3X6)	
* 18	4-210-365-01	CASE	
FL201	1-517-662-11	INDICATOR TUBE, FLUORESCENT	

4-2. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	X-4946-543-1	FOOT (SMALL) ASSY	
* 52	1-670-374-11	SPEAKER SW BOARD	
* 53	1-670-376-11	PRIMARY BOARD	
* 54	1-670-375-11	SECONDARY BOARD	
* 55	1-670-373-11	STANDBY BOARD	
⚠56	1-690-609-21	CORD, POWER	
57	4-900-386-01	SCREW	
58	4-210-380-01	RIVET, NYLON	
59	3-905-609-01	SCREW (TRANSISTOR)	
* 60	4-978-398-21	CUSHION	
* 61	A-4414-900-A	MAIN BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
62	3-703-244-00	BUSHING (2104), CORD	
* 63	4-210-367-01	PANEL, BACK	
Q603	8-749-010-25	IC MN2488-OPY-M	
Q604	8-749-010-26	IC MP1620-OPY-M	
Q653	8-749-010-25	IC MN2488-OPY-M	
Q654	8-749-010-26	IC MP1620-OPY-M	
Q703	8-749-010-25	IC MN2488-OPY-M	
Q704	8-749-010-26	IC MP1620-OPY-M	
Q753	8-749-010-25	IC MN2488-OPY-M	
Q754	8-749-010-26	IC MP1620-OPY-M	
⚠T901	1-431-258-11	TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

KEY | DISPLAY

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H

Ref. No.	Part No.	Description			Remark
*	A-4414-899-A	KEY BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CNS205	1-580-169-11	PIN, CONNECTOR (PC BOARD) 8P			
		< DIODE >			
D238	8-719-070-78	DIODE SEL6810A-TP6 (BASS BOOST)			
		< RESISTOR >			
R237	1-249-421-11	CARBON	2.2K	5%	1/4W F
R238	1-247-843-11	CARBON	3.3K	5%	1/4W
R239	1-249-411-11	CARBON	330	5%	1/4W
R240	1-249-413-11	CARBON	470	5%	1/4W F
R241	1-249-415-11	CARBON	680	5%	1/4W F
R242	1-249-417-11	CARBON	1K	5%	1/4W F
R243	1-249-419-11	CARBON	1.5K	5%	1/4W F
R244	1-249-426-11	CARBON	5.6K	5%	1/4W
R246	1-249-411-11	CARBON	330	5%	1/4W
R247	1-249-413-11	CARBON	470	5%	1/4W F
R248	1-249-415-11	CARBON	680	5%	1/4W F
R249	1-249-417-11	CARBON	1K	5%	1/4W F
R280	1-249-419-11	CARBON	1.5K	5%	1/4W F
R281	1-249-421-11	CARBON	2.2K	5%	1/4W F
R282	1-247-843-11	CARBON	3.3K	5%	1/4W
		< SWITCH >			
S221	1-554-937-11	SWITCH, KEY BOARD (CD)			
S222	1-554-937-11	SWITCH, KEY BOARD (TUNER)			
S223	1-554-937-11	SWITCH, KEY BOARD (VIDEO)			
S224	1-554-937-11	SWITCH, KEY BOARD (6)			
S225	1-554-937-11	SWITCH, KEY BOARD (7)			
S226	1-554-937-11	SWITCH, KEY BOARD (8)			
S227	1-554-937-11	SWITCH, KEY BOARD (9)			
S228	1-554-937-11	SWITCH, KEY BOARD (0)			
S231	1-554-937-11	SWITCH, KEY BOARD (TV/DBS)			
S232	1-554-937-11	SWITCH, KEY BOARD (1)			
S233	1-554-937-11	SWITCH, KEY BOARD (2)			
S234	1-554-937-11	SWITCH, KEY BOARD (3)			
S235	1-554-937-11	SWITCH, KEY BOARD (4)			
S236	1-554-937-11	SWITCH, KEY BOARD (5)			
S237	1-554-937-11	SWITCH, KEY BOARD (DIRECT)			
S239	1-554-937-11	SWITCH, KEY BOARD (TAPE/MD)			

****

Ref. No.	Part No.	Description			Remark
*	A-4414-898-A	DISPLAY BOARD, COMPLETE			
		**********			
*	4-210-383-01	HOLDER (FL TUBE)			
*	4-921-941-01	CUSHION (FL)			
		< CAPACITOR >			
C201	1-104-905-11	CAPACITOR	0.22F		5.5V
C202	1-164-159-21	CERAMIC	0.1uF		50V
C203	1-124-465-00	ELECT	0.47uF	20%	50V
C204	1-164-159-21	CERAMIC	0.1uF		50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-164-159-21	CERAMIC	0.1uF		50V
C207	1-126-096-11	ELECT	10uF	20%	35V
C421	1-137-440-11	FILM	0.018uF	5%	50V
C422	1-124-463-00	ELECT	0.1uF	20%	50V
C423	1-137-368-11	FILM	0.0047uF	5%	50V
C424	1-137-372-11	FILM	0.022uF	5%	50V
C471	1-137-440-11	FILM	0.018uF	5%	50V
C472	1-124-463-00	ELECT	0.1uF	20%	50V
C473	1-137-368-11	FILM	0.0047uF	5%	50V
C474	1-137-372-11	FILM	0.022uF	5%	50V
		< CONNECTOR >			
* CNP205	1-580-160-11	PIN, CONNECTOR (PC BOARD) 8P			
CNP301	1-566-690-11	PLUG, CONNECTOR (2.5MM) 2P			
CNS201	1-568-742-11	SOCKET, CONNECTOR 23P			
		< DIODE >			
D201	8-719-911-19	DIODE 1SS119-25			
D202	8-719-911-19	DIODE 1SS119-25			
D203	8-719-911-19	DIODE 1SS119-25			
D204	8-719-911-19	DIODE 1SS119-25			
D213	8-719-911-19	DIODE 1SS119-25			
D214	8-719-911-19	DIODE 1SS119-25			
D225	8-719-911-19	DIODE 1SS119-25			
D231	8-719-911-19	DIODE 1SS119-25			
		< FLUORESCENT INDICATOR >			
FL201	1-517-141-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC201	8-759-479-19	IC uPD78044FGF-064-3B9			
IC202	8-759-962-08	IC BA6208			
IC203	8-759-339-53	IC GP1U28XB			

DISPLAY **MAIN**

Ref. No.	Part No.	Description				Remark
		< COIL >				
L401	1-410-509-11	INDUCTOR 10uH				
		< TRANSISTOR >				
Q201	8-729-900-63	TRANSISTOR DTA124ES				
Q202	8-729-900-36	TRANSISTOR DTC124ES				
Q231	8-729-900-36	TRANSISTOR DTC124ES				
		< RESISTOR >				
R200	1-247-863-91	CARBON	22K	5%	1/4W	
R201	1-247-903-00	CARBON	1M	5%	1/4W	
R202	1-249-429-11	CARBON	10K	5%	1/4W	
R203	1-249-429-11	CARBON	10K	5%	1/4W	
R204	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R205	1-249-441-11	CARBON	100K	5%	1/4W	
R207	1-249-429-11	CARBON	10K	5%	1/4W	
R211	1-247-863-91	CARBON	22K	5%	1/4W	
R212	1-247-863-91	CARBON	22K	5%	1/4W	
R213	1-247-863-91	CARBON	22K	5%	1/4W	
R214	1-247-863-91	CARBON	22K	5%	1/4W	
R216	1-247-863-91	CARBON	22K	5%	1/4W	
R221	1-247-807-31	CARBON	100	5%	1/4W	
R222	1-247-807-31	CARBON	100	5%	1/4W	
R223	1-247-807-31	CARBON	100	5%	1/4W	
R224	1-247-807-31	CARBON	100	5%	1/4W	
R225	1-247-807-31	CARBON	100	5%	1/4W	
R226	1-249-441-11	CARBON	100K	5%	1/4W	
R227	1-249-441-11	CARBON	100K	5%	1/4W	
R228	1-249-412-11	CARBON	390	5%	1/4W	F
R231	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R232	1-249-411-11	CARBON	330	5%	1/4W	
R233	1-249-413-11	CARBON	470	5%	1/4W	F
R234	1-249-415-11	CARBON	680	5%	1/4W	F
R235	1-249-417-11	CARBON	1K	5%	1/4W	F
R236	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R270	1-247-807-31	CARBON	100	5%	1/4W	
R283	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R284	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R286	1-249-437-11	CARBON	47K	5%	1/4W	
R420	1-249-415-11	CARBON	680	5%	1/4W	F
R421	1-249-430-11	CARBON	12K	5%	1/4W	
R422	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R423	1-247-903-00	CARBON	1M	5%	1/4W	
R424	1-247-903-00	CARBON	1M	5%	1/4W	
R470	1-249-415-11	CARBON	680	5%	1/4W	F
R471	1-249-430-11	CARBON	12K	5%	1/4W	
R472	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R473	1-247-903-00	CARBON	1M	5%	1/4W	
R474	1-247-903-00	CARBON	1M	5%	1/4W	
		< VARIABLE RESISTOR >				
RV421	1-225-660-11	RES, VAR 100K/100K (BASS)				
RV422	1-225-659-11	RES, VAR 125K/125K (TREBLE)				
RV423	1-225-658-11	RES, VAR 100K/100K (BALANCE)				
		< SWITCH >				
S209	1-554-937-11	SWITCH, KEY BOARD (TUNING –)				
S210	1-554-937-11	SWITCH, KEY BOARD (TUNING +)				
S214	1-554-937-11	SWITCH, KEY BOARD (FM)				
S215	1-554-937-11	SWITCH, KEY BOARD (AM)				
S216	1-554-937-11	SWITCH, KEY BOARD (MEMORY)				
S217	1-554-937-11	SWITCH, KEY BOARD (SURROUND ON/OFF)				
S218	1-554-937-11	SWITCH, KEY BOARD (SET UP)				
S219	1-554-937-11	SWITCH, KEY BOARD (EFFECT, DELAY TIME)				
S229	1-554-937-11	SWITCH, KEY BOARD (SHIFT)				
S238	1-554-937-11	SWITCH, KEY BOARD (SURROUND MODE)				
		< VIBRATOR >				
X201	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)				
**********						
*	A-4414-900-A	MAIN BOARD, COMPLETE				
		**********				
	3-905-609-01	SCREW (TRANSISTOR)				
	4-210-380-01	RIVET, NYLON				
	7-685-872-09	SCREW +BVTT 3X8 (S)				
		< CAPACITOR >				
C302	1-126-934-11	ELECT	220uF	20%	16V	
C303	1-130-494-11	MYLAR	0.082uF	5%	50V	
C304	1-137-367-11	FILM	0.0033uF	5%	50V	
C305	1-130-494-11	MYLAR	0.082uF	5%	50V	
C306	1-126-959-11	ELECT	0.47uF	20%	50V	
C307	1-126-964-11	ELECT	10uF	20%	50V	
C308	1-126-964-11	ELECT	10uF	20%	50V	
C309	1-162-291-31	CERAMIC	560PF	10%	50V	
C310	1-126-962-11	ELECT	3.3uF	20%	50V	
C311	1-126-961-11	ELECT	2.2uF	20%	50V	
C312	1-126-934-11	ELECT	220uF	20%	16V	
C313	1-126-934-11	ELECT	220uF	20%	16V	
C314	1-136-165-00	FILM	0.1uF	5%	50V	
C316	1-124-252-00	ELECT	0.33uF	20%	50V	
C317	1-126-933-11	ELECT	100uF	20%	16V	
C318	1-136-357-11	FILM	680PF	5%	50V	
C322	1-126-962-11	ELECT	3.3uF	20%	50V	
C323	1-136-173-00	FILM	0.47uF	5%	50V	
C324	1-126-967-11	ELECT	47uF	20%	16V	
C325	1-136-165-00	FILM	0.1uF	5%	50V	
C326	1-136-165-00	FILM	0.1uF	5%	50V	
C327	1-126-959-11	ELECT	0.47uF	20%	50V	
C328	1-126-963-11	ELECT	4.7uF	20%	50V	
C329	1-126-959-11	ELECT	0.47uF	20%	50V	
C330	1-126-963-11	ELECT	4.7uF	20%	50V	
C331	1-124-250-11	ELECT	0.15uF	20%	50V	
C332	1-126-962-11	ELECT	3.3uF	20%	50V	
C333	1-124-250-11	ELECT	0.15uF	20%	50V	
C334	1-137-372-11	FILM	0.022uF	5%	50V	
C335	1-136-161-00	FILM	0.047uF	5%	50V	
C336	1-126-934-11	ELECT	220uF	20%	16V	
C337	1-126-964-11	ELECT	10uF	20%	50V	
C338	1-126-964-11	ELECT	10uF	20%	50V	
C339	1-126-964-11	ELECT	10uF	20%	50V	
C340	1-126-964-11	ELECT	10uF	20%	50V	
C341	1-126-934-11	ELECT	220uF	20%	16V	

Ref. No.	Part No.	Description			Remark
C342	1-126-962-11	ELECT	3.3uF	20%	50V
C343	1-126-962-11	ELECT	3.3uF	20%	50V
C344	1-136-165-00	FILM	0.1uF	5%	50V
C345	1-136-165-00	FILM	0.1uF	5%	50V
C346	1-126-959-11	ELECT	0.47uF	20%	50V
C347	1-126-963-11	ELECT	4.7uF	20%	50V
C348	1-126-959-11	ELECT	0.47uF	20%	50V
C349	1-126-963-11	ELECT	4.7uF	20%	50V
C350	1-124-250-11	ELECT	0.15uF	20%	50V
C351	1-126-962-11	ELECT	3.3uF	20%	50V
C352	1-124-250-11	ELECT	0.15uF	20%	50V
C353	1-164-159-21	CERAMIC	0.1uF		50V
C354	1-164-159-21	CERAMIC	0.1uF		50V
C355	1-164-159-21	CERAMIC	0.1uF		50V
C356	1-164-159-21	CERAMIC	0.1uF		50V
C357	1-164-159-21	CERAMIC	0.1uF		50V
C359	1-126-963-11	ELECT	4.7uF	20%	50V
C360	1-126-963-11	ELECT	4.7uF	20%	50V
C363	1-164-159-21	CERAMIC	0.1uF		50V
C365	1-126-966-11	ELECT	33uF	20%	16V
C366	1-164-159-21	CERAMIC	0.1uF		50V
C406	1-164-159-21	CERAMIC	0.1uF		50V
C408	1-162-294-31	CERAMIC	0.001uF	10%	50V
C412	1-162-291-31	CERAMIC	560PF	10%	50V
C413	1-164-159-21	CERAMIC	0.1uF		50V
C415	1-164-159-21	CERAMIC	0.1uF		50V
C416	1-164-159-21	CERAMIC	0.1uF		50V
C434	1-162-286-21	CERAMIC	220PF	10%	50V
C435	1-162-286-21	CERAMIC	220PF	10%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-104-665-11	ELECT	100uF	20%	10V
C605	1-102-233-00	CERAMIC	33PF	10%	500V
C610	1-126-967-11	ELECT	47uF	20%	16V
C611	1-137-372-11	FILM	0.022uF	5%	50V
C620	1-162-286-21	CERAMIC	220PF	10%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-104-665-11	ELECT	100uF	20%	10V
C655	1-102-233-00	CERAMIC	33PF	10%	500V
C660	1-126-967-11	ELECT	47uF	20%	16V
C661	1-137-372-11	FILM	0.022uF	5%	50V
C670	1-162-286-21	CERAMIC	220PF	10%	50V
C702	1-162-282-31	CERAMIC	100PF	10%	50V
C703	1-104-665-11	ELECT	100uF	20%	10V
C705	1-102-233-00	CERAMIC	33PF	10%	500V
C710	1-126-967-11	ELECT	47uF	20%	16V
C711	1-137-372-11	FILM	0.022uF	5%	50V
C720	1-162-286-21	CERAMIC	220PF	10%	50V
C721	1-126-934-11	ELECT	220uF	20%	10V
C722	1-126-964-11	ELECT	10uF	20%	50V
C740	1-128-562-11	ELECT	47uF	20%	100V
C741	1-128-562-11	ELECT	47uF	20%	100V
C742	1-126-925-11	ELECT	470uF	20%	10V
C743	1-126-925-11	ELECT	470uF	20%	10V
C752	1-162-282-31	CERAMIC	100PF	10%	50V
C753	1-104-665-11	ELECT	100uF	20%	10V
C755	1-102-233-00	CERAMIC	33PF	10%	500V
C760	1-126-967-11	ELECT	47uF	20%	16V
C761	1-137-372-11	FILM	0.022uF	5%	50V
C770	1-162-286-21	CERAMIC	220PF	10%	50V
C801	1-104-664-11	ELECT	47uF	20%	25V
C802	1-104-664-11	ELECT	47uF	20%	25V
C803	1-107-766-11	ELECT(BLOCK)	8200uF	20%	71V
C804	1-107-766-11	ELECT(BLOCK)	8200uF	20%	71V
C805	1-137-420-11	FILM	0.047uF	10%	100V
C806	1-137-420-11	FILM	0.047uF	10%	100V
C807	1-104-664-11	ELECT	47uF	20%	25V
C808	1-104-664-11	ELECT	47uF	20%	25V
C809	1-126-960-11	ELECT	1uF	20%	50V
C810	1-126-960-11	ELECT	1uF	20%	50V
C811	1-126-942-61	ELECT	1000uF	20%	25V
C812	1-126-942-61	ELECT	1000uF	20%	25V
C813	1-101-001-00	CERAMIC	0.001uF		50V
C814	1-101-001-00	CERAMIC	0.001uF		50V
C820	1-161-494-00	CERAMIC	0.022uF		25V
C821	1-161-494-00	CERAMIC	0.022uF		25V
C822	1-104-664-11	ELECT	47uF	20%	25V
C823	1-104-664-11	ELECT	47uF	20%	25V
C950	1-126-767-11	ELECT	1000uF	20%	16V
C951	1-164-097-11	CERAMIC	0.022uF		50V
C952	1-126-960-11	ELECT	1uF	20%	50V
C953	1-124-464-11	ELECT	0.22uF	20%	50V
C954	1-126-096-11	ELECT	10uF	20%	35V
C955	1-164-159-21	CERAMIC	0.1uF		50V

< CONNECTOR >

*	CN706	1-764-321-11	PIN, CONNECTOR (PC BOARD) 4P
	CNP702	1-764-474-11	PIN, CONNECTOR (PC BOARD) 5P
	CNS204	1-568-742-11	SOCKET, CONNECTOR 23P
	CNS301	1-568-442-11	SOCKET, CONNECTOR 9P
	CNS701	1-568-439-11	SOCKET, CONNECTOR 7P
*	CNS802	1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P

< DIODE >

D610	8-719-911-19	DIODE 1SS119-25
D710	8-719-911-19	DIODE 1SS119-25
D721	8-719-815-85	DIODE 1S1585
D722	8-719-815-85	DIODE 1S1585
D723	8-719-911-19	DIODE 1SS119-25
D724	8-719-911-19	DIODE 1SS119-25
D725	8-719-911-19	DIODE 1SS119-25
D801	8-719-936-37	DIODE HZS24-1LTD
D802	8-719-302-38	DIODE RBV-602-01
D804	8-719-923-38	DIODE MTZJ-T-77-5.6B
D810	8-719-200-82	DIODE 11ES2
D811	8-719-200-82	DIODE 11ES2
D812	8-719-200-82	DIODE 11ES2
D813	8-719-200-82	DIODE 11ES2
D814	8-719-911-19	DIODE 1SS119-25
D815	8-719-911-19	DIODE 1SS119-25
D817	8-719-001-30	DIODE UZL-9H3
D818	8-719-911-19	DIODE 1SS119-25
D820	8-719-200-82	DIODE 11ES2
D821	8-719-200-82	DIODE 11ES2
D822	8-719-200-82	DIODE 11ES2
D823	8-719-200-82	DIODE 11ES2

MAIN

Ref. No.	Part No.	Description	Remark
D901	8-719-911-19	DIODE 1SS119-25	
		< EARTH >	
* G201	1-537-738-21	TERMINAL, EARTH	
* G202	1-537-738-21	TERMINAL, EARTH	
* G203	1-537-738-21	TERMINAL, EARTH	
		< IC >	
IC300	8-759-442-97	IC LV1016	
IC301	8-759-442-96	IC LA2786	
IC302	8-759-636-74	IC M5218AP-22	
IC401	8-759-805-14	IC LC7822	
IC701	8-759-326-52	IC uPC2581V	
IC702	8-759-326-52	IC uPC2581V	
IC801	8-759-231-58	IC TA7812S	
IC802	8-759-604-45	IC M5F79M12L	
IC950	8-759-333-83	IC NJM2103D	
		< JACK >	
J401	1-774-843-11	JACK, PIN 1P (MIX AUDIO OUT)	
J402	1-774-005-21	JACK, PIN 6P (TAPE/MD, CD)	
J403	1-770-615-21	JACK, PIN 6P (VIDEO, TV/DBS)	
		< COIL >	
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-410-509-11	INDUCTOR 10uH	
L601	1-420-872-00	COIL, AIR-CORE	
L651	1-420-872-00	COIL, AIR-CORE	
L701	1-420-872-00	COIL, AIR-CORE	
L751	1-420-872-00	COIL, AIR-CORE	
		< TRANSISTOR >	
Q303	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q304	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q307	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q308	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q602	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q603	8-749-010-25	IC MN2488-OPY-M	
Q604	8-749-010-26	IC MP1620-OPY-M	
Q610	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q620	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q651	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q652	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q653	8-749-010-25	IC MN2488-OPY-M	
Q654	8-749-010-26	IC MP1620-OPY-M	
Q670	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q702	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q703	8-749-010-25	IC MN2488-OPY-M	
Q704	8-749-010-26	IC MP1620-OPY-M	
Q710	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q720	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q721	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q722	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q723	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q751	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref. No.	Part No.	Description			Remark
Q752	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q753	8-749-010-25	IC MN2488-OPY-M			
Q754	8-749-010-26	IC MP1620-OPY-M			
Q770	8-729-140-82	TRANSISTOR 2SA988-PAFAEA			
Q801	8-729-140-97	TRANSISTOR 2SB734-34			
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q808	8-729-180-92	TRANSISTOR 2SD809-K			
Q809	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q951	8-729-026-68	TRANSISTOR 2SD2525(TP)			
		< RESISTOR >			
⚠ R298	1-249-387-11	CARBON	3.3	5% 1/4W	F
⚠ R299	1-249-387-11	CARBON	3.3	5% 1/4W	F
R300	1-247-903-00	CARBON	1M	5% 1/4W	
R301	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R302	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R303	1-249-439-11	CARBON	68K	5% 1/4W	
R304	1-249-441-11	CARBON	100K	5% 1/4W	
R306	1-249-436-11	CARBON	39K	5% 1/4W	
R307	1-247-862-11	CARBON	20K	5% 1/4W	
R308	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R309	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R352	1-249-441-11	CARBON	100K	5% 1/4W	
R353	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R354	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R355	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R356	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R357	1-249-441-11	CARBON	100K	5% 1/4W	
R358	1-249-441-11	CARBON	100K	5% 1/4W	
R359	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R360	1-247-843-11	CARBON	3.3K	5% 1/4W	
R361	1-249-429-11	CARBON	10K	5% 1/4W	
R362	1-249-429-11	CARBON	10K	5% 1/4W	
R363	1-249-411-11	CARBON	330	5% 1/4W	
R402	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R403	1-249-417-11	CARBON	1K	5% 1/4W	F
R404	1-249-417-11	CARBON	1K	5% 1/4W	F
R405	1-249-417-11	CARBON	1K	5% 1/4W	F
R406	1-249-417-11	CARBON	1K	5% 1/4W	F
R407	1-249-417-11	CARBON	1K	5% 1/4W	F
R408	1-249-429-11	CARBON	10K	5% 1/4W	
R409	1-249-417-11	CARBON	1K	5% 1/4W	F
R414	1-249-425-11	CARBON	4.7K	5% 1/4W	F
R415	1-249-417-11	CARBON	1K	5% 1/4W	F
R420	1-249-441-11	CARBON	100K	5% 1/4W	
R435	1-249-418-11	CARBON	1.2K	5% 1/4W	F
R442	1-249-418-11	CARBON	1.2K	5% 1/4W	F
R443	1-249-418-11	CARBON	1.2K	5% 1/4W	F
R447	1-249-416-11	CARBON	820	5% 1/4W	F
R448	1-249-429-11	CARBON	10K	5% 1/4W	
R449	1-247-863-91	CARBON	22K	5% 1/4W	
R452	1-249-421-11	CARBON	2.2K	5% 1/4W	F
R453	1-249-417-11	CARBON	1K	5% 1/4W	F
R454	1-249-417-11	CARBON	1K	5% 1/4W	F
R455	1-249-417-11	CARBON	1K	5% 1/4W	F
R456	1-249-417-11	CARBON	1K	5% 1/4W	F
R457	1-249-417-11	CARBON	1K	5% 1/4W	F
R458	1-249-429-11	CARBON	10K	5% 1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R459	1-249-417-11	CARBON	1K	5%	1/4W F
R465	1-249-417-11	CARBON	1K	5%	1/4W F
R470	1-249-441-11	CARBON	100K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W F
R602	1-249-439-11	CARBON	68K	5%	1/4W
R603	1-249-413-11	CARBON	470	5%	1/4W F
R604	1-249-439-11	CARBON	68K	5%	1/4W
R605	1-249-441-11	CARBON	100K	5%	1/4W
R610	1-249-421-11	CARBON	2.2K	5%	1/4W F
R611	1-249-437-11	CARBON	47K	5%	1/4W
R613	1-249-414-11	CARBON	560	5%	1/4W F
⚠R614	1-249-408-11	CARBON	180	5%	1/4W F
⚠R615	1-249-408-11	CARBON	180	5%	1/4W F
⚠R616	1-233-352-21	ENCAPSULATED COMPONENT			
⚠R617	1-249-393-11	CARBON	10	5%	1/4W F
R618	1-249-389-11	CARBON	4.7	5%	1/4W F
⚠R619	1-249-405-11	CARBON	100	5%	1/4W F
R620	1-249-419-11	CARBON	1.5K	5%	1/4W F
R621	1-249-426-11	CARBON	5.6K	5%	1/4W
⚠R622	1-249-403-11	CARBON	68	5%	1/4W F
R623	1-249-437-11	CARBON	47K	5%	1/4W
R630	1-249-426-11	CARBON	5.6K	5%	1/4W
R631	1-247-887-00	CARBON	220K	5%	1/4W
R632	1-249-426-11	CARBON	5.6K	5%	1/4W
R651	1-249-417-11	CARBON	1K	5%	1/4W F
R652	1-249-439-11	CARBON	68K	5%	1/4W
R653	1-249-413-11	CARBON	470	5%	1/4W F
R654	1-249-439-11	CARBON	68K	5%	1/4W
R655	1-249-441-11	CARBON	100K	5%	1/4W
R660	1-249-421-11	CARBON	2.2K	5%	1/4W F
R661	1-249-437-11	CARBON	47K	5%	1/4W
R663	1-249-414-11	CARBON	560	5%	1/4W F
⚠R664	1-249-408-11	CARBON	180	5%	1/4W F
⚠R665	1-249-408-11	CARBON	180	5%	1/4W F
⚠R666	1-233-352-21	ENCAPSULATED COMPONENT			
⚠R667	1-249-393-11	CARBON	10	5%	1/4W F
R668	1-249-389-11	CARBON	4.7	5%	1/4W F
R670	1-249-419-11	CARBON	1.5K	5%	1/4W F
R671	1-249-426-11	CARBON	5.6K	5%	1/4W
R672	1-249-431-11	CARBON	15K	5%	1/4W
R673	1-249-437-11	CARBON	47K	5%	1/4W
R701	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-249-439-11	CARBON	68K	5%	1/4W
R703	1-249-413-11	CARBON	470	5%	1/4W F
R704	1-249-439-11	CARBON	68K	5%	1/4W
R705	1-249-441-11	CARBON	100K	5%	1/4W
R710	1-249-421-11	CARBON	2.2K	5%	1/4W F
R711	1-249-437-11	CARBON	47K	5%	1/4W
R713	1-249-414-11	CARBON	560	5%	1/4W F
⚠R714	1-249-408-11	CARBON	180	5%	1/4W F
⚠R715	1-249-408-11	CARBON	180	5%	1/4W F
⚠R716	1-233-352-21	ENCAPSULATED COMPONENT			
⚠R717	1-249-393-11	CARBON	10	5%	1/4W F
R718	1-249-389-11	CARBON	4.7	5%	1/4W F
⚠R719	1-249-405-11	CARBON	100	5%	1/4W F
R720	1-249-419-11	CARBON	1.5K	5%	1/4W F
R721	1-249-426-11	CARBON	5.6K	5%	1/4W
⚠R722	1-249-403-11	CARBON	68	5%	1/4W F

Ref. No.	Part No.	Description			Remark
R723	1-249-437-11	CARBON	47K	5%	1/4W
R724	1-249-425-11	CARBON	4.7K	5%	1/4W F
R725	1-249-429-11	CARBON	10K	5%	1/4W
R726	1-249-417-11	CARBON	1K	5%	1/4W F
R727	1-249-427-11	CARBON	6.8K	5%	1/4W F
R730	1-249-429-11	CARBON	10K	5%	1/4W
R731	1-247-887-00	CARBON	220K	5%	1/4W
R734	1-249-429-11	CARBON	10K	5%	1/4W
⚠R740	1-249-393-11	CARBON	10	5%	1/4W F
⚠R741	1-249-393-11	CARBON	10	5%	1/4W F
R742	1-249-425-11	CARBON	4.7K	5%	1/4W F
R743	1-249-425-11	CARBON	4.7K	5%	1/4W F
R751	1-249-417-11	CARBON	1K	5%	1/4W F
R752	1-249-439-11	CARBON	68K	5%	1/4W
R753	1-249-413-11	CARBON	470	5%	1/4W F
R754	1-249-439-11	CARBON	68K	5%	1/4W
R755	1-249-441-11	CARBON	100K	5%	1/4W
R760	1-249-421-11	CARBON	2.2K	5%	1/4W F
R761	1-249-437-11	CARBON	47K	5%	1/4W
R763	1-249-414-11	CARBON	560	5%	1/4W F
⚠R764	1-249-408-11	CARBON	180	5%	1/4W F
⚠R765	1-249-408-11	CARBON	180	5%	1/4W F
⚠R766	1-233-352-21	ENCAPSULATED COMPONENT			
⚠R767	1-249-393-11	CARBON	10	5%	1/4W F
R768	1-249-389-11	CARBON	4.7	5%	1/4W F
R770	1-249-419-11	CARBON	1.5K	5%	1/4W F
R771	1-249-426-11	CARBON	5.6K	5%	1/4W
R772	1-249-431-11	CARBON	15K	5%	1/4W
R773	1-249-437-11	CARBON	47K	5%	1/4W
R781	1-247-887-00	CARBON	220K	5%	1/4W
⚠R803	1-247-739-11	CARBON	100	5%	1/2W F
R804	1-249-425-11	CARBON	4.7K	5%	1/4W F
R821	1-249-437-11	CARBON	47K	5%	1/4W
R822	1-249-425-11	CARBON	4.7K	5%	1/4W F
R823	1-249-437-11	CARBON	47K	5%	1/4W
R824	1-249-425-11	CARBON	4.7K	5%	1/4W F
R825	1-249-407-11	CARBON	150	5%	1/4W F
⚠R830	1-249-405-11	CARBON	100	5%	1/4W F
⚠R831	1-249-403-11	CARBON	68	5%	1/4W F
R950	1-249-421-11	CARBON	2.2K	5%	1/4W F
R951	1-249-429-11	CARBON	10K	5%	1/4W
R952	1-247-843-11	CARBON	3.3K	5%	1/4W
R953	1-247-863-91	CARBON	22K	5%	1/4W
R954	1-249-439-11	CARBON	68K	5%	1/4W
R955	1-249-429-11	CARBON	10K	5%	1/4W
R956	1-247-843-11	CARBON	3.3K	5%	1/4W
R957	1-249-417-11	CARBON	1K	5%	1/4W F
R960	1-249-429-11	CARBON	10K	5%	1/4W
R961	1-249-401-11	CARBON	47	5%	1/4W F
		< RELAY >			
RY601	1-515-921-11	RELAY (12V)			
RY701	1-515-921-11	RELAY (12V)			
RY801	1-755-013-11	RELAY			
		< TERMINAL >			
TM001	1-537-240-51	TERMINAL BOARD (CHECKER PIN)(ANTENNA)			
TM601	1-537-923-11	TERMINAL BOARD (SPEAKER) (6P) (SPEAKER REAR/CENTER)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN **POWER SW** **PRIMARY** **SECONDARY**
SPEAKER SW **STANDBY** **VOL-TONE**

Ref. No.	Part No.	Description			Remark
TM701	1-537-240-11	TERMINAL BOARD (CHECKER PIN) (SPEAKER FRONT)			
		< TUNER >			
TU001	1-233-593-11	ENCAPSULATED COMPONENT			
		< VIBRATOR >			
X301	1-579-952-21	VIBRATOR, CERAMIC (8MHz)			
**********					
*	1-670-378-11	POWER SW BOARD **********			
		< SWITCH >			
S200	1-554-937-11	SWITCH, KEY BOARD (I/⏻)			
**********					
*	1-670-376-11	PRIMARY BOARD **********			
	1-533-233-21	HOLDER, FUSE			
		< FUSE >			
⚠F901	1-576-109-11	FUSE (5A 125V)			
		< TRANSFORMER >			
⚠T901	1-431-285-31	TRANSFORMER POWER			
**********					
*	1-670-375-11	SECONDARY BOARD **********			
		< CONNECTOR >			
CNP801	1-764-480-11	PIN, CONNECTOR (PC BOARD) 11P			
		< RESISTOR >			
⚠R810	1-249-381-11	CARBON	1	5%	1/4W F
⚠R811	1-249-381-11	CARBON	1	5%	1/4W F
**********					
*	1-670-374-11	SPEAKER SW BOARD **********			
		< JACK >			
J741	1-750-733-11	JACK (LARGE TYPE)(PHONES)			
		< RESISTOR >			
R732	1-247-753-11	CARBON	1.2K	5%	1/2W
R733	1-247-753-11	CARBON	1.2K	5%	1/2W
R782	1-247-753-11	CARBON	1.2K	5%	1/2W
R783	1-247-753-11	CARBON	1.2K	5%	1/2W
		< SWITCH >			
S701	1-771-436-11	SWITCH, PUSH (SPEAKERS)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-670-373-11	STANDBY BOARD **********			
		< CONNECTOR >			
⚠CNJ902	1-540-057-11	OUTLET, AC (POLAR)(AC OUTLET)			
CNP901	1-564-321-00	PIN, CONNECTOR 2P			
		< DIODE >			
D816	8-719-911-19	DIODE 1SS119-25			
		< EARTH >			
* G900	1-537-738-21	TERMINAL, EARTH			
		< RESISTOR >			
⚠R901	1-202-725-00	SOLID	3.3M	10%	1/2W
		< RELAY >			
⚠RY901	1-515-720-11	RELAY			
		< TRANSFORMER >			
⚠T902	1-450-361-11	TRANSFORMER, POWER			
**********					
*	A-4414-896-A	VOL-TONE BOARD **********			
		< CAPACITOR >			
C420	1-162-207-31	CERAMIC	22PF	5%	50V
C425	1-126-795-11	ELECT	10uF	20%	25V
C426	1-126-795-11	ELECT	10uF	20%	25V
C427	1-124-252-00	ELECT	0.33uF	20%	50V
C428	1-130-489-00	MYLAR	0.033uF	5%	50V
C429	1-102-973-00	CERAMIC	100PF	5%	50V
C430	1-126-301-11	ELECT	1uF	20%	50V
C431	1-126-301-11	ELECT	1uF	20%	50V
C432	1-126-795-11	ELECT	10uF	20%	25V
C433	1-126-795-11	ELECT	10uF	20%	25V
C470	1-162-207-31	CERAMIC	22PF	5%	50V
C475	1-126-795-11	ELECT	10uF	20%	25V
C476	1-126-795-11	ELECT	10uF	20%	25V
C477	1-124-252-00	ELECT	0.33uF	20%	50V
C478	1-130-489-00	MYLAR	0.033uF	5%	50V
C479	1-102-973-00	CERAMIC	100PF	5%	50V
C492	1-124-464-11	ELECT	0.22uF	20%	50V
C601	1-126-163-11	ELECT	4.7uF	20%	50V
C651	1-126-163-11	ELECT	4.7uF	20%	50V
C701	1-126-163-11	ELECT	4.7uF	20%	50V
C751	1-126-163-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
CNS402	1-568-439-11	SOCKET, CONNECTOR 7P			
CNS403	1-568-442-11	SOCKET, CONNECTOR 9P			
		< DIODE >			
D421	8-719-911-19	DIODE 1SS119-25			

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Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
		< IC >				
IC404	8-759-636-74	IC M5218AP-22				
		< TRANSISTOR >				
Q401	8-729-202-67	TRANSISTOR 2SK246-GR3				
Q402	8-729-141-30	TRANSISTOR 2SC3623A-LK				
Q451	8-729-202-67	TRANSISTOR 2SK246-GR3				
Q452	8-729-141-30	TRANSISTOR 2SC3623A-LK				
		< RESISTOR >				
R425	1-249-429-11	CARBON	10K	5%	1/4W	
R426	1-249-439-11	CARBON	68K	5%	1/4W	
R427	1-249-417-11	CARBON	1K	5%	1/4W	F
R430	1-249-437-11	CARBON	47K	5%	1/4W	
R431	1-247-843-11	CARBON	3.3K	5%	1/4W	
R432	1-247-883-00	CARBON	150K	5%	1/4W	
R433	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R434	1-249-413-11	CARBON	470	5%	1/4W	F
R438	1-249-441-11	CARBON	100K	5%	1/4W	
R441	1-249-441-11	CARBON	100K	5%	1/4W	
R444	1-247-903-00	CARBON	1M	5%	1/4W	
R464	1-247-903-00	CARBON	1M	5%	1/4W	
R469	1-247-903-00	CARBON	1M	5%	1/4W	
R475	1-249-429-11	CARBON	10K	5%	1/4W	
R476	1-249-439-11	CARBON	68K	5%	1/4W	
R477	1-249-417-11	CARBON	1K	5%	1/4W	F
R480	1-249-437-11	CARBON	47K	5%	1/4W	
R481	1-247-843-11	CARBON	3.3K	5%	1/4W	
R482	1-247-883-00	CARBON	150K	5%	1/4W	
R483	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R484	1-249-413-11	CARBON	470	5%	1/4W	F
R491	1-249-441-11	CARBON	100K	5%	1/4W	
R492	1-247-903-00	CARBON	1M	5%	1/4W	
R494	1-247-903-00	CARBON	1M	5%	1/4W	
		< VARIABLE RESISTOR >				
RV404	1-225-229-11	RES, VAR, CARBON 100KX4 (MASTER VOLUME)				

****

MISCELLANEOUS
****

9	1-782-100-11	WIRE (FLAT TYPE) (23 CORE)
13	1-782-074-11	WIRE (FLAT TYPE) (7 CORE)
14	1-782-075-11	WIRE (FLAT TYPE) (9 CORE)
⚠56	1-690-609-21	CORD, POWER
FL201	1-517-662-11	INDICATOR TUBE, FLUORESCENT
Q603	8-749-010-25	IC MN2488-OPY-M
Q604	8-749-010-26	IC MP1620-OPY-M
Q653	8-749-010-25	IC MN2488-OPY-M
Q654	8-749-010-26	IC MP1620-OPY-M
Q703	8-749-010-25	IC MN2488-OPY-M
Q704	8-749-010-26	IC MP1620-OPY-M
Q753	8-749-010-25	IC MN2488-OPY-M
Q754	8-749-010-26	IC MP1620-OPY-M
⚠T901	1-431-258-11	TRANSFORMER, POWER

****

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-710-11	COMMANDER, STANDARD (RM-U302)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-659-41	ANTENNA (FM)	
	1-501-721-11	ANTENNA (LOOP)	
	3-862-695-11	MANUAL, INSTRUCTION (ENGLISH)	
	4-981-643-01	COVER, BATTERY (For RM-U302)	

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****
HARDWARE LIST
****

#1	7-682-547-04	SCREW +B 3X6	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

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9-922-845-11

Sony Corporation
Home A&V Products Company

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